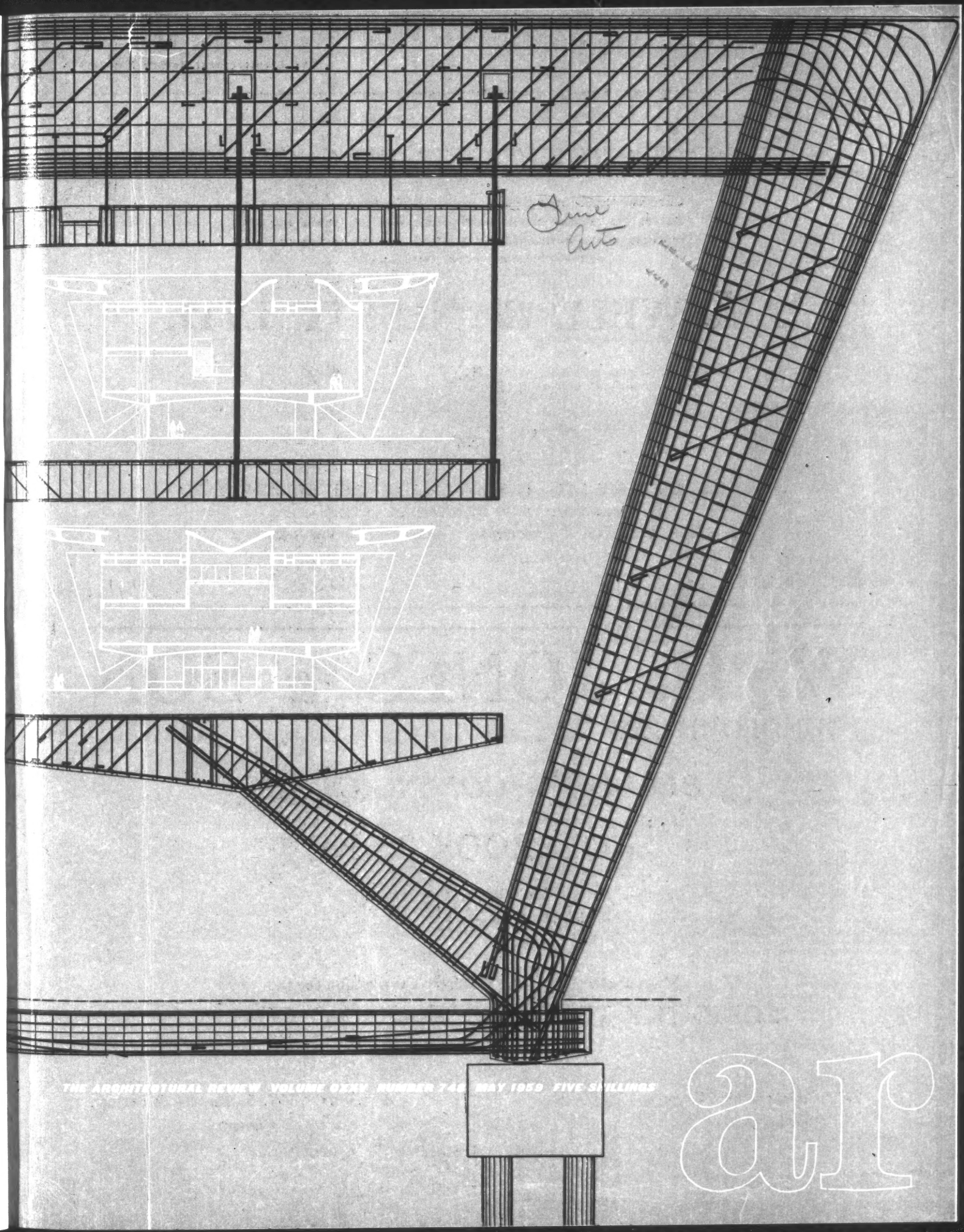

THE ARCHITECTURAL REVIEW VOLUME CXXV NUMBER 748 MAY 1959 FIVE SHILLINGS

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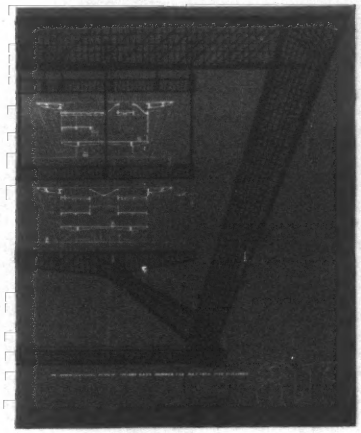
THE ARCHITECTURAL REVIEW

Volume 125 *Number 748* *May 1959*



The cover shows a detail from a drawing for the reinforcement of the giant concrete portal frames that will carry the overhead structure of the main block of the new Museu de Arte Moderna, Rio de Janeiro, designed by Affonso Eduardo Reidy. Much of the museum structure will be suspended from these frames, thus giving freedom in plan, in section, and in the distribution of top lighting, as the two sections of the gallery-block show. Reidy's design, the pioneer purpose-made museum of modern art in South America, is one of a number of recent contributions to gallery design discussed and illustrated in Michael Brawne's article on pages 314-325, which coincides with the handing in of the competition designs for the *Sunday Times* competition for a National Gallery extension.

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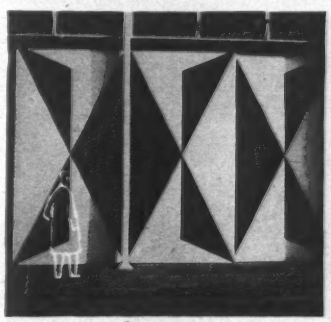
CORRESPONDENCE

Anonymous Architecture

To the Editors.

SIRS,—Reading the review of Sybil Moholy-Nagy's book *Native Genius in Anonymous Architecture* in the December, 1958, issue of your magazine, it occurred to me that you may be interested to see the enclosed photograph.

It shows three of a set of four doors giving access to a boilerhouse



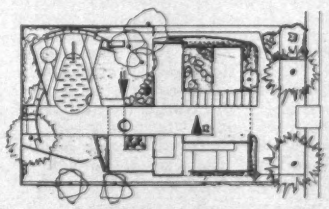
extension. The scale of the doors, which are a little over 13 feet high, can be judged from the size of the figure on the left. The colours are black and white and the pattern varies as the position of the leaves is changed.

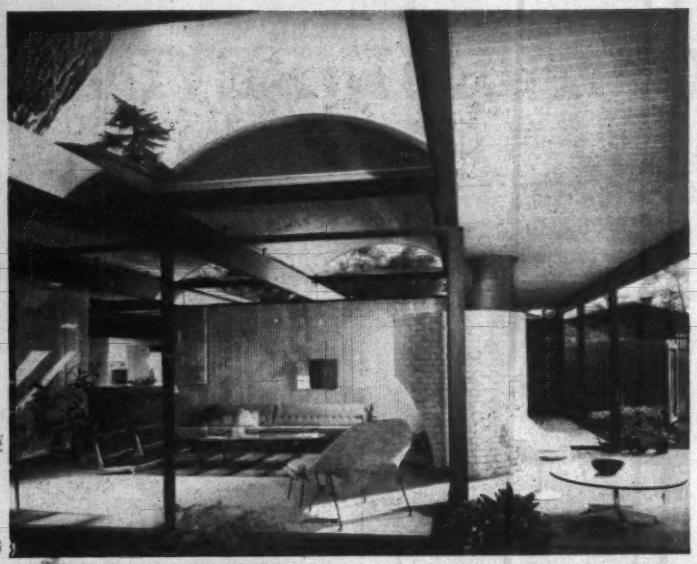
Yours, etc.,
REX I. SAVIDGE.
Nottingham.

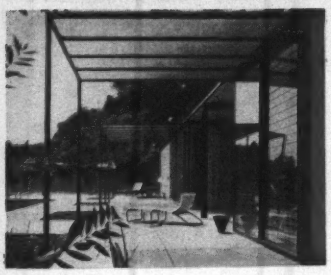
MARGINALIA

Case Studies—Twenty rising Twenty-one

One of the most distinguished and influential architectural research programmes ever inaugurated, the *Case Study House* series promoted by *Arts and Architecture* is about to achieve its majority—the twentieth house is completed and the twenty-first under way. The twentieth, the Saul Bass house, in Altadena, Cal., was designed by Buff, Straub and Hensman in close association with their client, and reveals the extraordinary level of architectural sophistication that is now taken almost for granted in Pacific Coast work. A courtyard plan is employed to extract the maximum performance from a fairly limited site, but fitted







3, *view across the living room of Case Study House 20.*
4, *dining-entry area of the same house.*
5, *the terrace of Case Study House 21, by Pierre Koenig.*

with such ingenuity into the relatively simple structural frame that the house cannot be understood from any single viewpoint. However, the basic plan depends quite simply on groups of rooms on either side of central, tiled, living-spine that runs almost the full depth of the site, 2. The main structural emphasis, as marked by both the main beams and the preformed plywood vaults that cover parts of the living area, is at right angles to this spine, producing spatial effects such as 3, and surprising internal perspectives such as 4.

In the meantime, work is proceeding on Case Study House 21, an all-steel structure as to both frame and cladding, 5, designed by Pierre Koenig with William Porush as engineer. Indeed, by the time this note has appeared in print the house will probably have been completed, and have replaced Case Study 20 as the place for young home-makers to visit on a Sunday afternoon.

Church Art and Architecture

There appear—at last—to be real signs of that re-awakening of live interest in church design in Britain that many writers have looked for in recent years. The correspondence in the AR and elsewhere following Peter Hammond's article *A Liturgical Brief* (AR, April, 1958) was a clear sign that church design can now be discussed in this country at a level well above the Gothic-Genteelism of the recent past. The new mood can be seen also in the thirteenth Annual Report* of the *Central Council for the Care of Churches*, which one might well expect to be conservative since its function is conservation. Much of what is printed, or reprinted, in the report, however, is quite otherwise—particularly the address given by the Rev. A. C. Bridge to the Council's 1958 Congress, and beginning on the very 'functional' note *Art is a language, a means of communication.* If the illustrations to the report do not always support this tough line, it should be remembered that they show what exists, and was commissioned before the new approach had any real foothold in the Church of England.

Even more important, because inter-denominational, architectural, and specifically aware of the Liturgical Movement, is the formation of the *New Churches Research Group*, with a body of vice-presidents who range from the Warden of Keble to Alison and Peter Smithson, from John Betjeman to Sergei Kadleigh, and a programme of research and functional analysis, of publicity and the gathering of information. The Group, which is open to anyone in general sympathy with its aims, has its headquarters at present at 10a Dacre Street, London, S.W.1, and all enquiries should be addressed there.

* Church Information Board, 3s.

Motif

Motif is a *journal grande luxe* devoted to the graphic and visual arts. Since it appears under the imprint of the Shenval Press, value for money is guaranteed even at 20s. per copy. Although the second issue will have appeared before this note is published, the first is worth recalling on a number of counts. Any successor to *Alphabet and Image*, Shenval Press's well remembered venture of the late Forties and early Fifties, will clearly have to surpass a high given standard and extend the previous coverage. *Motif* 1 does both with a bang, in the shape of the first instalment of what promises to be a monumental three-decker article by Helmut Gernsheim on *Aesthetic Trends in Photography Past and Present*, mostly illustrated, of course, from the Gernsheim collection. Instalment 2, which should include the Bauhaus, is eagerly awaited.

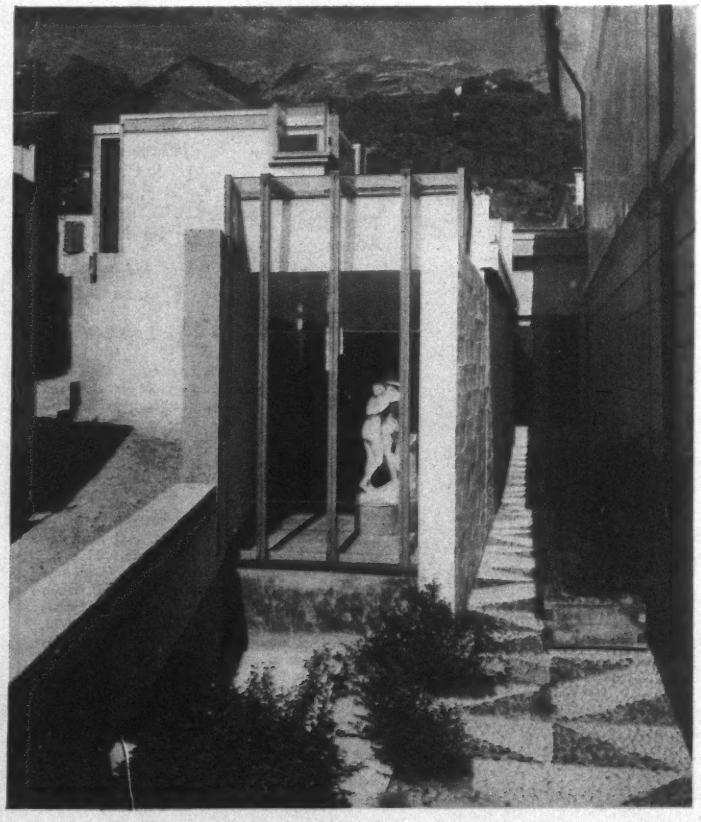
Other articles in the first issue cover the book illustrations of Jean Lurçat, the type-faces of Vincent Figgins, views of Brighton by Linton Lamb, views on illustration by Edward Ardizzone, views on art students by Professor Richard Guyatt, reviews of exhibitions and books as one might expect, and a note by George Nash on a painting by John Orlando Parry, 6, executed in 1835 and now in Messrs. Dunhill's collection, that appears to offer the best synoptic view of early (very early) Victorian advertising faces to be found outside St. Bride's Institute. Parry, a musical entertainer as well as a watercolourist of parts, seems to have left here a document as valuable to the theatrical historian as to the historian of type.

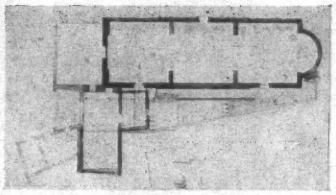
6, *Victorian advertising faces, detail of a painting by John Orlando Parry, from* Motif.

More Space for Canova

Carlo Scarpa, most accomplished and original of the 'organic' or Wrightian persuasion among Italian architects, has recently completed an ingenious extension to the Canova museum at Possagno. The space available was limited to a triangular plot with an appreciable fall in the ground, alongside the old *Gipsoteca*—a nineteenth-century structure of basilican plan, built to house plaster-casts. The new work is separated from the old by a narrow path, seen in 7 (which also shows the window at the narrow end of the new block), but otherwise occupies the whole of the land available, and exploits the gradient to add interest and create natural zoning of the interior—9 is view of the interior from a point alongside the sculpture group visible in 7. Although allowances must be made for exigencies of site, and for Scarpa's stylistic pre-suppositions,

7, *the new wing of the Canova Museum, by Carlo Scarpa.*





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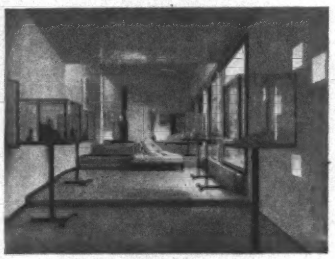


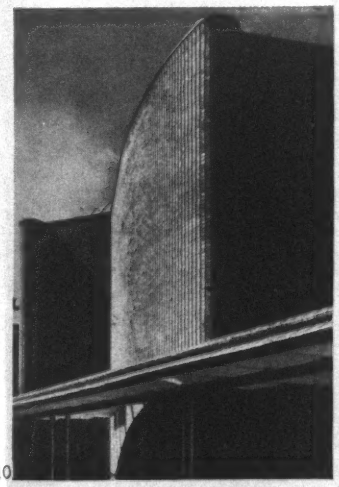
9

8 and 9, plan and interior of the new wing at the Canova Museum.

this small gallery seems to provide powerful visual arguments against the widely-held dogma that sculpture galleries should be neutral in feeling, for fear of 'competing' with the exhibits.

Aalto Auditorium

A striking departure from the 'traditional' type of Palace of Soviet Export Culture (as epitomized in Warsaw) has been made in the case of Helsinki, where local Communist organizations waived their stylistic commitments and commissioned an architect without political commitments, Alvar Aalto, to design their House of Culture. The scheme comprises a range of buildings, somewhat in the manner of his Pensions Institute (AR, April, 1957) enclosing two sides of a square court and a free-form auditorium building, 10 & 11, occupying the third side and a good deal of the court itself. The asymmetrical shell-like form of the plan, 12,



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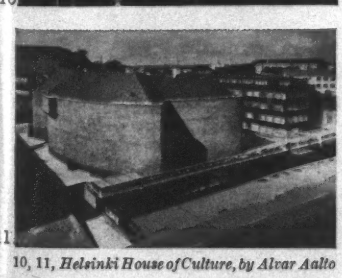

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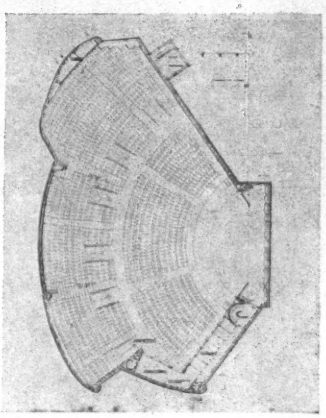
10, 11, Helsinki House of Culture, by Alvar Aalto



12

not only simplifies the accommodation of the building to the site, but also provides an interior of contrasting character from one part to another—at one end an intimate, flat-floored theatre only eleven seats deep, at the other running back for twenty-eight rows with the prolonged rake of a great amphitheatre.

Mirador

Accidents of geography, politics, and what-not, have tended to make us see the contemporary culture of South America through Rio de Janeiro, Sao Paulo or Caracas, and to ignore the far south almost completely. Yet Buenos Aires has had quite a bright intellectual life even under the Peron regime, producing at one time the magazine *Ver y Estimar*, and also *Nueva Vision*, which was edited by Tomas Maldonado, now the head of the Hochschule at Ulm. More recently there has appeared *Mirador*, which describes itself as a 'panorama of industrial civilization,' and is in many

13, wall of ceramic-faced tiles in a house by the Argentine architect, Antonio Bonet.

ways comparable to the famous Italian journal *Civiltà delle Macchine*. However, it differs from *Civiltà* in ways which are specific to its point of origin—no. 3 for instance was devoted to (one could almost say pre-occupied with) problems of power and its sources, Argentina being far from self-sufficient in power-sources, while no. 4, the most recent to come to hand, had nearly half its pages devoted to agricultural problems.

But this is not to say that *Mirador* is culturally provincial—far from it. These same two issues also contain numerous articles derived from foreign sources, as well as studies of the work of Le Corbusier, Juan Gris, Charles Chaplin and Antonio Bonet, 13, and articles on Brasilia, the psychology of architectural space, mass-communications, cybernetics and interplanetary navigation. It is, in short, one of those wide-awake, polytechnical journals capable of taking a synoptic view of contemporary culture, that seem to spring up almost spontaneously at the extremities of Western technology, but never at its centres. Yet how much richer Anglo-Saxon culture would be if there were an English-language periodical of the same aims and stature.

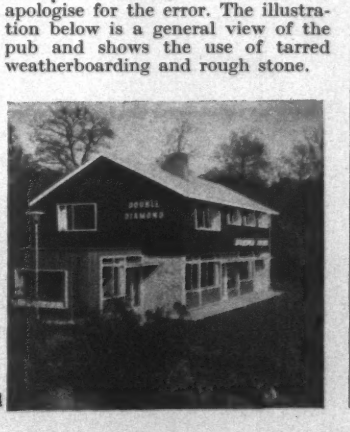
The Turn of the Century

Arts Yearbook is the first of a promised series of annual publications about art by *Arts*, the American monthly magazine. It looks in many ways very like its parent publication, decked out in stiff covers, has a similar layout and most of the regular *Arts* advertisers. This first issue is devoted to the state of the arts at the turn of the century, and has a disappointing first essay on, precisely, Modern Art at the Turn of the Century—disappointing because it sees nothing outside Paris, discusses none of the developments in Germany, Italy, Scandinavia, Britain or the US, that made modern art an international adventure. On the other hand, there is a useful international chronology, starting with Aurier's article on van Gogh and ending with the Armory Show in New York, threaded through the ads. like the gallery notices in the magazine.

In addition—indeed, in justification of *Arts Yearbook* 1—there are three other full-dress essays of first-rate importance and one nearly so. The latter usefully documents the discovery of Negro and primitive art, the others deal respectively and illuminatingly with: the *World of the Eight*, an excellent study by Leslie Katz, of Sloan, Glackens, Luks, Shinn and their connection of pioneer American modern realists; *New Perspectives on Old Masters*, in which Alfred Werner examines the effect of Berenson and Wolfflin on Twentieth Century ideas about the art of the past; and *From Pre-Raphaelitism to Bloomsbury*, a witty chronicle by Vernon Young of English aesthetics and art under the shadow of Whistler and Ruskin.

The Face of the Pub

The 'Monson Arms' at Redhill, illustrated in *The Face of the Pub* in the December AR, was incorrectly attributed to the Architect's Department of Ind Coope & Allsopp Ltd. It was, in fact, designed by Mr. Michael Brashier, to whom we apologise for the error. The illustration below is a general view of the pub and shows the use of tarred weatherboarding and rough stone.



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INTELLIGENCE

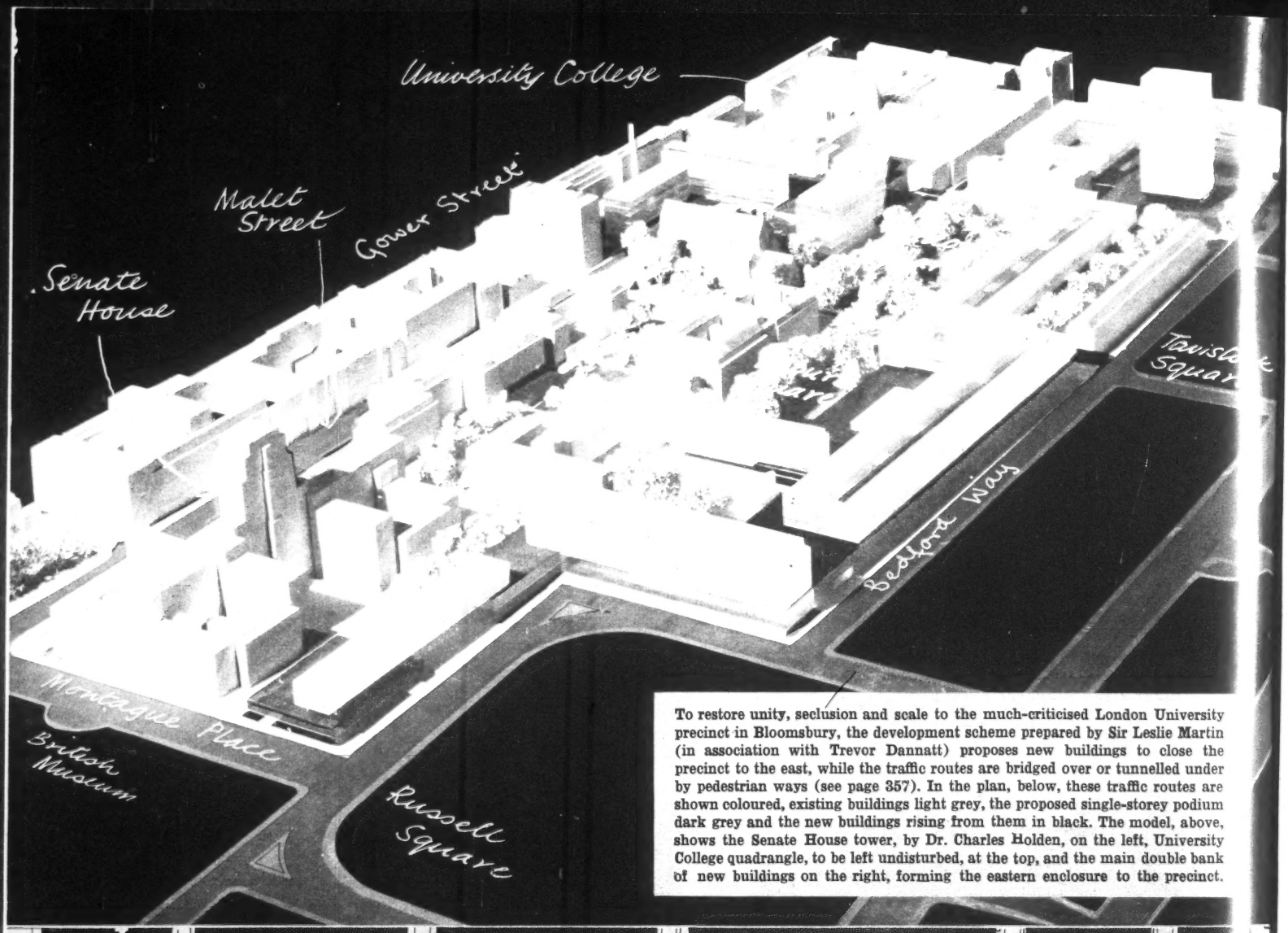
The *Centro Internazionale di Studi di Architettura 'Andrea Palladio'* whose location, not unnaturally, is in Vicenza, has announced its first summer seminar, on Palladio and Sanmicheli, which is to run from August 27 to September 15, 1959. Teachers will include, among others, Rudolf Wittkower, André Chastel, G. C. Argan, Ernesto Rogers and Bruno Zevi, and enrolments (open to graduates and students in Faculties of Arts or Architecture) close on July 15. Further details may be had from the Secretary of the *Centro*, Basilica Palladiana, Vicenza, Italy.

The Society for the Protection of Ancient Buildings is holding a one-week course, in London, on the repair of ancient buildings, from May 25–30. The course, which costs £6 6s. will include lectures, visits to buildings, practical demonstrations and studies of work in progress. Details from the Secretary, 55 Great Ormond Street, London, W.C.1.

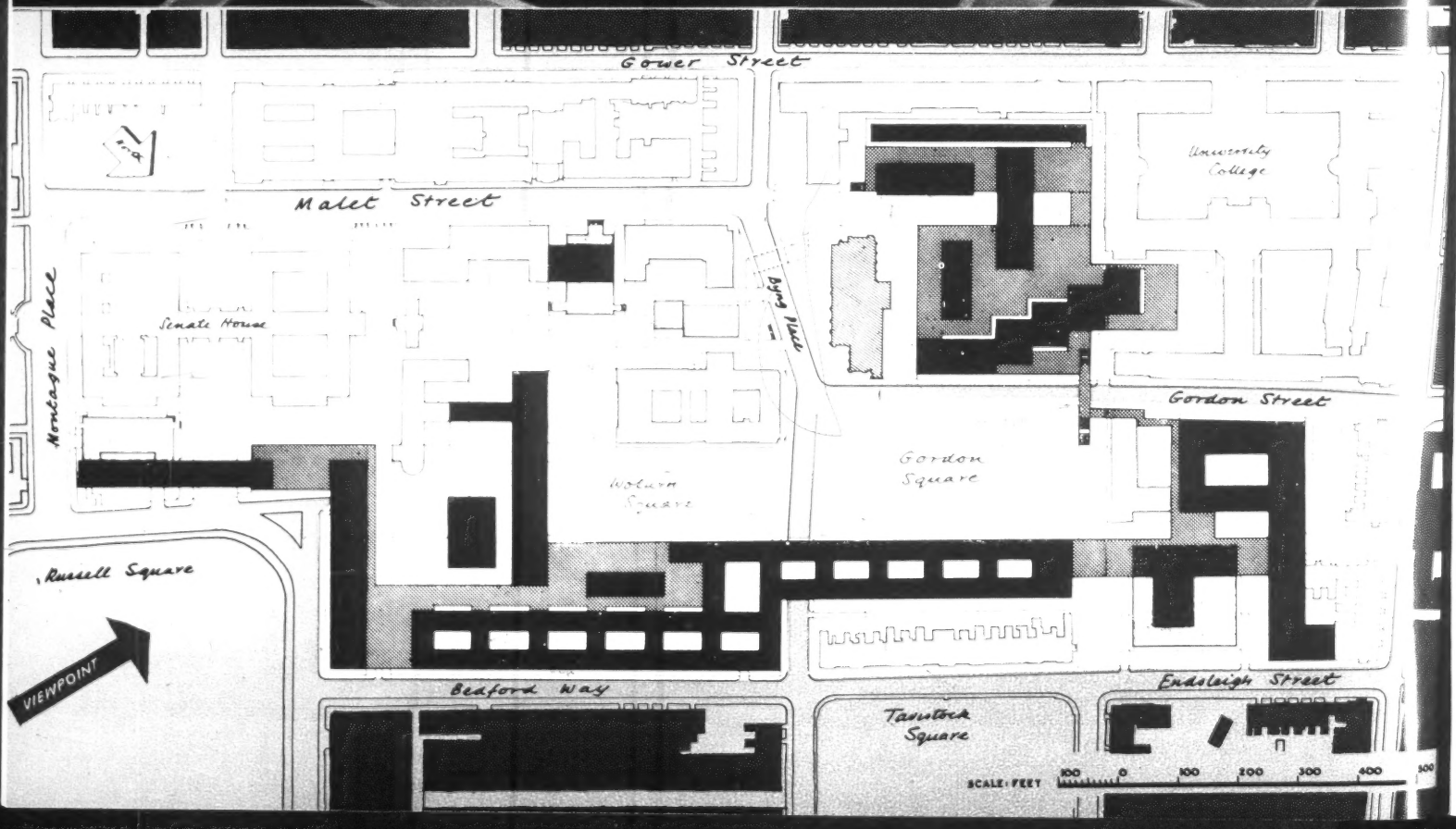
The Minister of Health has appointed Mr. W. E. Tatton Brown, Deputy County Architect of Hertfordshire, to be Chief Architect to the Ministry of Health, a new post following the decision that the Ministries of Health and Housing and Local Government should have separate architectural departments.

ACKNOWLEDGMENTS

FRONTISPIECE, page 302: The Times. Two LCC COMPREHENSIVE SCHOOLS, pages 306–313: Galwey, Arphot. THE PICTURE WALL, pages 314–325: frontis., Jesper Høm; 1, 2, Architecture and Building; 3, Sam Lambert; 4, 41, Cervin Robinson, Arphotus; 5, Ezra Stoller; 8–11, Andreas Feininger; 12, 15, Gemeente Musea van Amsterdam; 13, 14, Studio Hartland and Melchers; 16–18, 21, Ignazio Gardella; 19, 20, Martinotti; 22, 24, Giacomelli; 23, Agnes Varda; 25, Casabella; 27, 28, 29, Jesper Høm; 30, 31, Maurice Miller; 32, Munson-Williams-Proctor Institute; 33, Louis Checkman; 34, Hahn and Roberts; 35, 36, Arkitektur; 37, 'Museum'; 42, Sydney W. Newbery; 43, 44, l'Architettura. PLYMOUTH CENTRED, pages 326–331: frontis., top, Aerofilms; frontis., bottom, Tom Holland. GARAGE AT POOLE, pages 332–335, Galwey, Arphot. THE MODERN MOVEMENT, pages 336–340: frontis., 1, Foto GFN; 2, Victoria and Albert Museum; 3, S. Lang; 4, National Buildings Record; 5, Public Works Congress (1933); 6, Printers International Specimen Exchange; 7, 12, 13, Toomey, Arphot; 9, Larisch; 10, Otto Wagner; 11, A. Loos; 16, Courtauld Institute of Art; 17, E. Lissitzky; 18, J. B. van Loghem; 19, H. R. Hitchcock; 20, McCallum, Arphot. SPIRAL TOWER, pages 341–343: Bunji Kobayashi. INTERIOR DESIGN, pages 344–347: 1, 5, Toomey, Arphot; 2, 3, 4, McCallum, Arphot; 6, 7, John Maltby; 8–13, Henk Snoek. DESIGN REVIEW, page 348: 1, 2, Heal Fabrics. CURRENT ARCHITECTURE, pages 351–354: 1–4, Colin Westwood; 5, 6, 8, Thompson; 7, Mr. and Mrs. Sidney Darby & Son; 9, 12, Kenneth Shepherd; 10, 11, Adolf Morath. MISCELLANY, pages 355–360: Exhibitions, 1, Soichi Sunami for the Museum of Modern Art; 2, Arts Council of Great Britain; 5, Wallace Heaton; 7, James Mortimer. Magdelen Street, Norwich, Browne, Arphot. Counter Attack, 1, J. W. Kitchenham; 2–5, Sydney W. Newbery.



To restore unity, seclusion and scale to the much-criticised London University precinct in Bloomsbury, the development scheme prepared by Sir Leslie Martin (in association with Trevor Dannatt) proposes new buildings to close the precinct to the east, while the traffic routes are bridged over or tunnelled under by pedestrian ways (see page 357). In the plan, below, these traffic routes are shown coloured, existing buildings light grey, the proposed single-storey podium dark grey and the new buildings rising from them in black. The model, above, shows the Senate House tower, by Dr. Charles Holden, on the left, University College quadrangle, to be left undisturbed, at the top, and the main double bank of new buildings on the right, forming the eastern enclosure to the precinct.



Lionel Brett

THE ENVIRONMENTALISTS

A group of young architects, planners, engineers, sociologists and economists, calling itself The Society for the Promotion of Urban Renewal, has been meeting regularly for some months to discuss and initiate research into the various aspects of its subject. It has been inspired by, among other things, impatience that the official policy of decentralization to new towns, necessary though it has been, should now take second place to the rebuilding of old ones; disappointment with the results in terms of townscape of the 1947 Town and Country Planning Act; determination to fight the social and visual disintegration of the television age; anger at the spread of officially-sponsored subtopia and piazza romanticism picked up abroad. This month, SPUR puts on its first exhibition at the RIBA, and simultaneously the RIBA itself has organized a series of meetings on the subject. In the following article, Lionel Brett, the chairman of SPUR, gives a personal version of some of the arguments that lie behind the group's activities.

I suspect—anything more positive would be foolish since we cannot read all the thoughts of the past nor history's verdict on ourselves—that our generation is the first to take a truly comprehensive (or what Mumford calls a synoptic) view of our man-made environment. But before justifying the suspicion, I must define it. By 'generation' I mean (as is customary) 'a few people in our generation in Britain'. And by 'comprehensive' I mean a view which literally sees all that is there, which is not blind to the manhole cover or the abstract objects on the office roof, which has invented floorscape and wirescape, explored space from foxhole-scale to cinerama and beyond, and enjoyed the Victorian lamp-post's reflection in the curtain wall, or the offbeat vulgarism in the Cotswold village.

It has been claimed that something of this outlook existed in the Picturesque movement of the English eighteenth century; but if one reads its literature one finds something entirely different, in fact opposite: a rule of Taste, a Snob's Guide, which sought to make all landscapes alike instead of exploiting their differences, which turned that blind eye which was to become the Englishman's secret weapon upon everything that was really moulding and would soon transform his landscape. Behind the clump was the pithead machinery, and one just had to hope that the latter wouldn't grow faster than the former.

(Yet 'screens of suitable trees and shrubs' remain the panacea, even into the age of nuclear power.) Moreover, as J. M. Richards has pointed out, the Picturesque movement never tried its techniques on townscape. There, the vista-mongers carried all before them, turning *their* blind eyes, as did Haussmann, upon the bits and pieces of old cities that got left out of the pattern. Nobody saw cities as living things, interwoven of past and present, and when the German curve-mongers came in they were just as narrow-minded as anybody else. You can search town-planning from Hadrian to Abercrombie (but perhaps exclusive) and you won't find a theorist or practitioner who saw that the essence of cities was their continuity, complexity and dramatic contrast of old and new.

This we do see, but if we take credit for it we must at once answer the charge of indifference. To allow everything ugly the alibi of 'character' is as emasculating as to permit cruelty on the principle of toleration.* To let it be thought that by abolishing planning and letting everything rip we can achieve a civilized, rich and meaningful environment would be the ultimate *trahison des clercs*, and would simply mean, in an age as physically powerful as ours, that somebody else would do the planning. The fact is that our awareness of its visual complexity and our enjoyment of its accidents and by-products makes urban renewal, like painting and poetry, all the more difficult and professional a job.

We should regard this gift of the 'unblinking stare' as a tool only, parallel on the mental plane with that other priceless physical tool, multi-level circulation, and equally capable of abuse. You can use multi-level circulation like Victorian railway and modern road engineers as a technical tour-de-force, that treats the living city below it with contempt, and in due time wrecks it both as an environment and as an economy. Or you can use it as an architect and a humanist, to lift people (since it is people we are concerned with) above their means of transport and restore to them the freedom of their cities and all those pleasures of urban living on which I need not dilate, since they are as common a component of the reader's fantasies as any sun-dappled hillside or Mediterranean cove.

We (or, to continue accurate, certain designers and writers in this country) have this comprehensive vision, and we have the physical means to realize it. Yet look how we are divided. Banded together in separate organizations we have the pure preservationists, whose motto remains 'anything new is worse'; the amenity-mongers, withered offshoot of the Picturesque movement, with their tree screens and harmonies; the welfare state planners, with their point blocks, plot ratios and compulsory curtain-walls; the subtopians with their frontal defences and prunus avenues; the anarchists and architectural solipsists, whose motto is presumably that of the Dukes of Clermont-Tonnerre: 'etiamsi omnes, ego non.' Surveying the busy scene, one can hardly blame the President of the RIBA for proclaiming that planning committees should be abolished. Yet all this muddle and waste of energy is due to one thing only: that though we have the people, and we have the job, we haven't introduced them to each other.

The people are the Environmentalists. One could best describe them by naming them, or, in default of that, locating them. Some write or draw in this REVIEW; others work for a handful of enlightened city authorities; a few have built their ideas; a few more work, in varying degrees of frustration, for an old borough or a new town. Their means of expression are the relationships between buildings and between spaces, and the element in which they work is time. A kinetic vision plus a sense of history lead them to reject any single viewpoint in space or time, their humanism never to forget immediate needs or the shortness of life. Their own eyes have taught them absolute catholicity of taste, and given them the ability, if they had the chance, to pull out all the stops between immediacy and grandeur. These people are few, but enough for the job.

The job is to make the best of the cities and towns most British people live in, using all the methods (moral, aesthetic, financial, technical) now to hand. 'Rebuild,' 'renew,' 're-create,' are words I avoid in this context, since they imply varying degrees of condescension to places many of which are thick with character, guarded by the wry affection of many people, and short only on imaginative leadership. But I do not thereby minimize the scale of the job to be done, which includes the rehabilitation of the centre and the inner ring and (in the larger cities) internal decentralization of business and high-density living into what is now suburbia, so saving what is left of the countryside. The space for redevelopment is there, inside the conurbations, inside the old towns, even inside the villages, but to use it needs courage of various kinds, courage above all to refuse the easy way out of grabbing cheap farm land and leaving outworn urban areas to rot. To stop the rot, to turn retreat into advance, and in the second half of this century to exorcise the escapism that nearly wrecked our environment in the first: that is the job. What is at stake now is not the individual building (which nine times out of ten is either harmlessly bad or reasonably good) but our whole national environment. Given a bit of peace, there is no reason why every mile of Britain should not by 2000 have its point.†

With all this needing doing, it seems ludicrously out of scale that some of our best people should be devoting a lot of energy to sapping, sniping and skirmishing (or whatever other obsolete *l'Attaque* phraseology you prefer) on the perimeter of local authority planning. Behind the barricades there are, of course, some almost unbelievably ham-fisted officials and councillors; but there are good people, too, devoting anonymous lifetimes to getting the previous paragraph rolling. Nobody denies that the control of elevations, the sore point, has been scandalously abused, even at ministerial level. But on the whole it seems better that this general power should exist, than that we should attempt the misguided and for

* 'The tolerance of men who have strength and are prepared to use it is meaningful. The tolerance of those whose muscles are flabby and spirits are unwilling is simply "don't-hit-me" masquerading as mature agreement.' (Richard Hoggart.)

† 'The . . . approach should be to ensure that the whole apparatus of living is woven into a landscape which can give pleasure to those who live, work and travel in it. It should not be necessary to journey through miles of ugliness to reach an (over-worn) oasis of beauty. The beauty should be ubiquitous.' (Sylvia Crowe.)

ever out-of-date task of restricting it to beauty-spots, or risk Bedford Square and the High by abolishing it altogether. It is an offence to let off a firework or cause an obstruction, but public opinion sees to it that the police let us do both a good deal. With these planning controls, the best thing would be for the burglar to turn easy-going policeman; next best, to attack the police rather than the law.

The real trouble is that, by and large, urban planning is being done by the wrong people, and is, therefore, in danger of turning into a job that no environmentalist could conceivably take on. And here we need to be careful with the English language. 'The wrong people' doesn't mean 'inferior people.' It is as if the carpentry was being done by the plumber. Or, on a higher intellectual plane and more precisely, we have the Scientist doing what is essentially a job for the Arts man. (The same used to happen in reverse in medicine and astronomy). No modern architect is in any danger of underrating the engineer; indeed, we hold them in superstitious awe, born of their staggering achievements in the last two centuries. But their job is to solve a problem, ours to set a scene. We look through the eyes of history, which was correctly bunk to Henry Ford. For the engineer's mind is trained to concentrate on the thing itself, the architect's on the thing behind the thing, and on things in relation to people. Experience shows that these relationships are the essence of townscape.

But even if the technical people were to sort themselves out in a rational manner, and the environmentalists were to get themselves into the right jobs, we should still have far to go. Councillors are another problem. Distrust of the expert, which is a normal and not entirely reprehensible part of their make-up, is found in its most extreme form when the field of expertise is aesthetic. Accepting this, we must ask ourselves whether elected (or nominally elected) representatives are the only possible constituents of local planning committees. Other spenders of public money such as the Forestry Commission, the Agricultural Executive Committees and the supply and transport undertakings seem to play around with our landscape and townscape without being solely manned by locally elected representatives. It might not, therefore, be thought necessarily immoral for our cities and large towns to set up Reconstruction Committees containing a strong minority of enthusiastic and responsible outsiders, whose main qualification would be a readiness to think hard and imaginatively about urban renewal.

Deeper than any of these administrative and interprofessional currents lies a national indifference, a failure of will, which is too apt to hide behind an eschatological alibi. The H-Bomb's first casualties are purely mental. Bertrand Russell is no ostrich in these matters, so I end with his answer:

'I find men in our dangerous age who seem to be in love with misery and death, and who grow angry when hopes are suggested to them. . . . I cannot agree with these men. To preserve hope in our world calls upon our intelligence and our energy. In those who despair it is very frequently the energy that is lacking.'

TWO LCC COMPREHENSIVE SCHOOLS

ARCHITECTS

HUBERT BENNETT, ARCHITECT TO THE COUNCIL
MICHAEL POWELL, SCHOOLS DEPARTMENT
G. F. HORSFALL, ASSISTANT SCHOOLS ARCHITECT

Of all building types known, the British school has been subject to the most ruthless and scientific functional, structural and economic analysis—the record of the Ministry of Education and of a number of local authorities in this respect is an example to the world. Yet—in spite of what has been said about science as the enemy of art and of freedom of expression—the British school remains one of the least predictable of building types in terms of its architectural form.

The two schools illustrated on the pages that follow are about as different in their architectural conception as the present range of possibilities in the Modern Movement admits, yet both were designed by the same division of the same local authority, Schools Division of the Architect's Department of the LCC, and both were designed to serve substantially the same function, that of a large comprehensive secondary school, serving some 2,000 pupils.

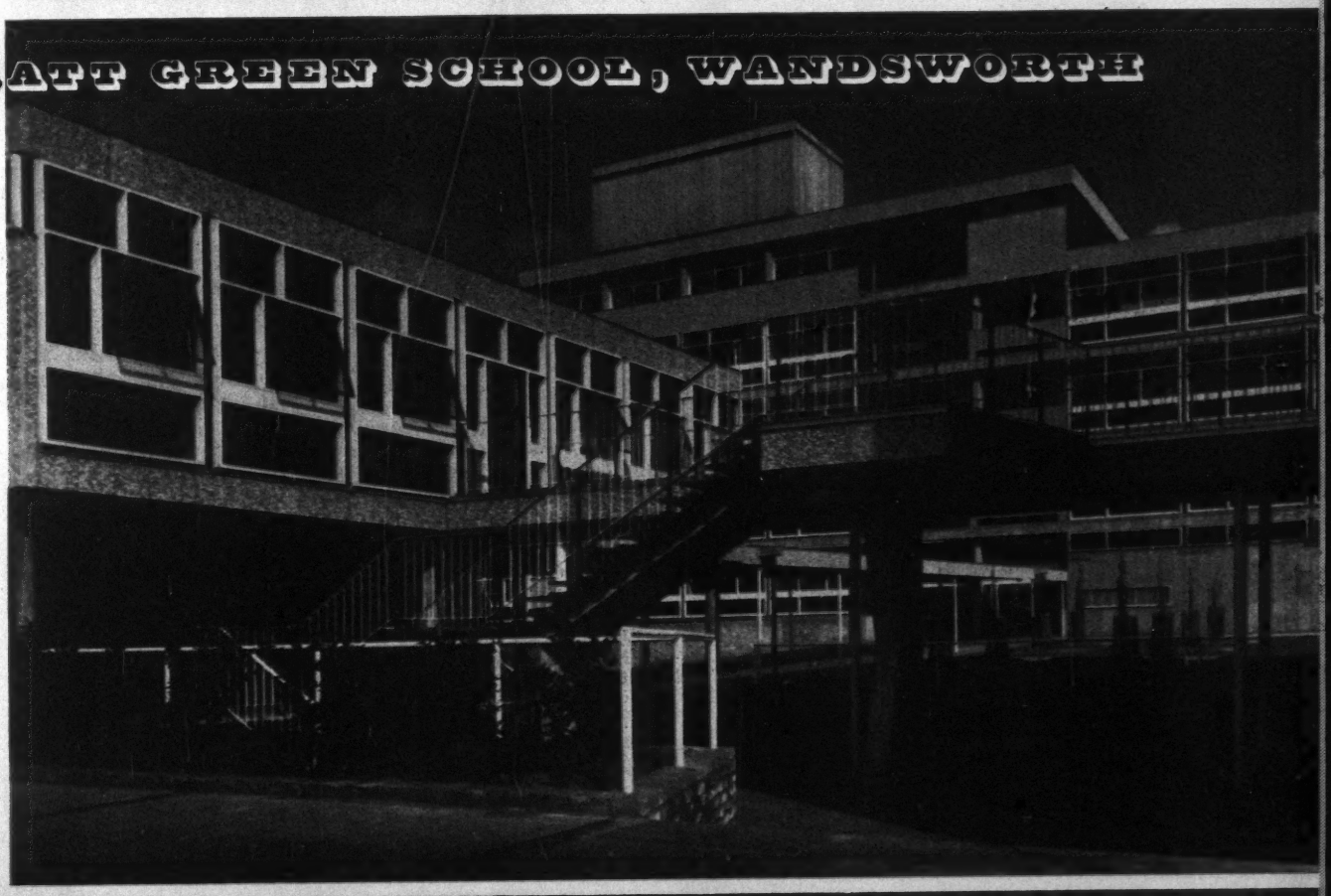
The architectural product is, in the case of Kingsdale school, more or less what the superficial student of current architecture might expect for an economically designed structure of its size and type—bright, neat, slimly-detailed, curtain-walled and rectangular in its block-forms. Yet Garrett Green, built at a competitive cost-per pupil, eschews the obviously machine-made element, the standard cladding and the smooth surface, substituting weatherboarding, exposed aggregate, strongly accented window-frames, a plastic rather than a planimetric treatment of facades.

Nor should it be supposed that these are simply different faces to mask a similar plan. At the point where it might be supposed that science and economics would impose the tightest limitations on architectural imagination, i.e., the use and arrangement of work-spaces, the two schools diverge more dramatically than in their elevations. Kingsdale houses most of its accommodation in a rectangular block around a bisected courtyard, with most of its circulation ways absorbed within the building envelopes. Garrett Green, on the other hand, has a loosely distributive plan of isolated blocks, connected by a network of covered corridors and communicating bridges that are an independent and important part of the architectural conception.

But plan and elevation together raise another important point which is marginal to these building-complexes when considered purely as schools, but not when considered more generally as complexes of buildings serving widely varying functions. In terms of built volume, occupancy, pedestrian circulation and relationship to surrounding areas, these school complexes are paradigms of small city-centres, created outside the current polemics of urbanism. Architecturally they crystallize two dominating concepts of city planning—Kingsdale being in a sense the traditionalist version, with piazzas and lengthy street-facades of repetitive architecture, Garrett Green, by contrast, with its communication-net linking diversified building types, summarizing ideas about the communication-city, or mobility-city, that are still not to be seen in any designed city-scape that actually exists.

KINGSDALE SCHOOL, DULWICH

GARRATT GREEN SCHOOL, WANDSWORTH



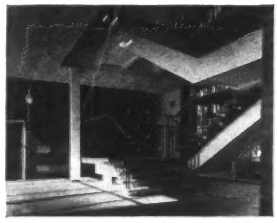
KINGSDALE SCHOOL, DULWICH

The site in Kingswood Drive was originally eight plots each 100 ft. wide and containing rows of mature trees, as many of which as possible have been preserved. The teaching accommodation is planned in a three-storey building around a large courtyard, which is divided by a single storey building containing the assembly hall, administration rooms and kitchen. Open planning on the ground floor allows views through to these courtyards. The assembly hall and dining area have a T-shaped plan, and can be used for large meetings with a platform at the junction of the three arms. The central portion of the assembly hall floor is dropped to form an area for dancing or display, and can be used as a theatre by screening off the sides and one end. Music practice rooms directly behind the stage can be used as dressing rooms.

The gymnasia and workshops are in two separate blocks connected to the main teaching block by a covered way. The planning and construction grid used for the buildings was also carried over the whole site.

The three storey classroom block is of patent unit construction with continuous curtain wall glazing to the first and second floors. The assembly hall, kitchen and administration wing have a reinforced concrete frame. The single storey workshop block is of load-bearing brickwork with a prestressed concrete roof and cladding of brickwork and glazing. The gymnasia are all in reinforced concrete frame construction with curtain wall cladding, and changing and shower accommodation linking the blocks.

3



4,5

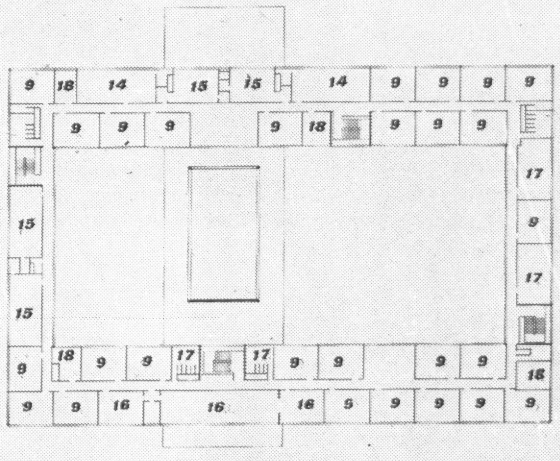
6

3, north end of the teaching block, with the gymnasia on the left beyond the covered way.
4, the staircase in the teaching block has precast granolithic treads and black painted balustrades.
5, the assembly hall has grey walls and black columns.
6, the assembly hall seen from the courtyard, with the teaching block beyond.

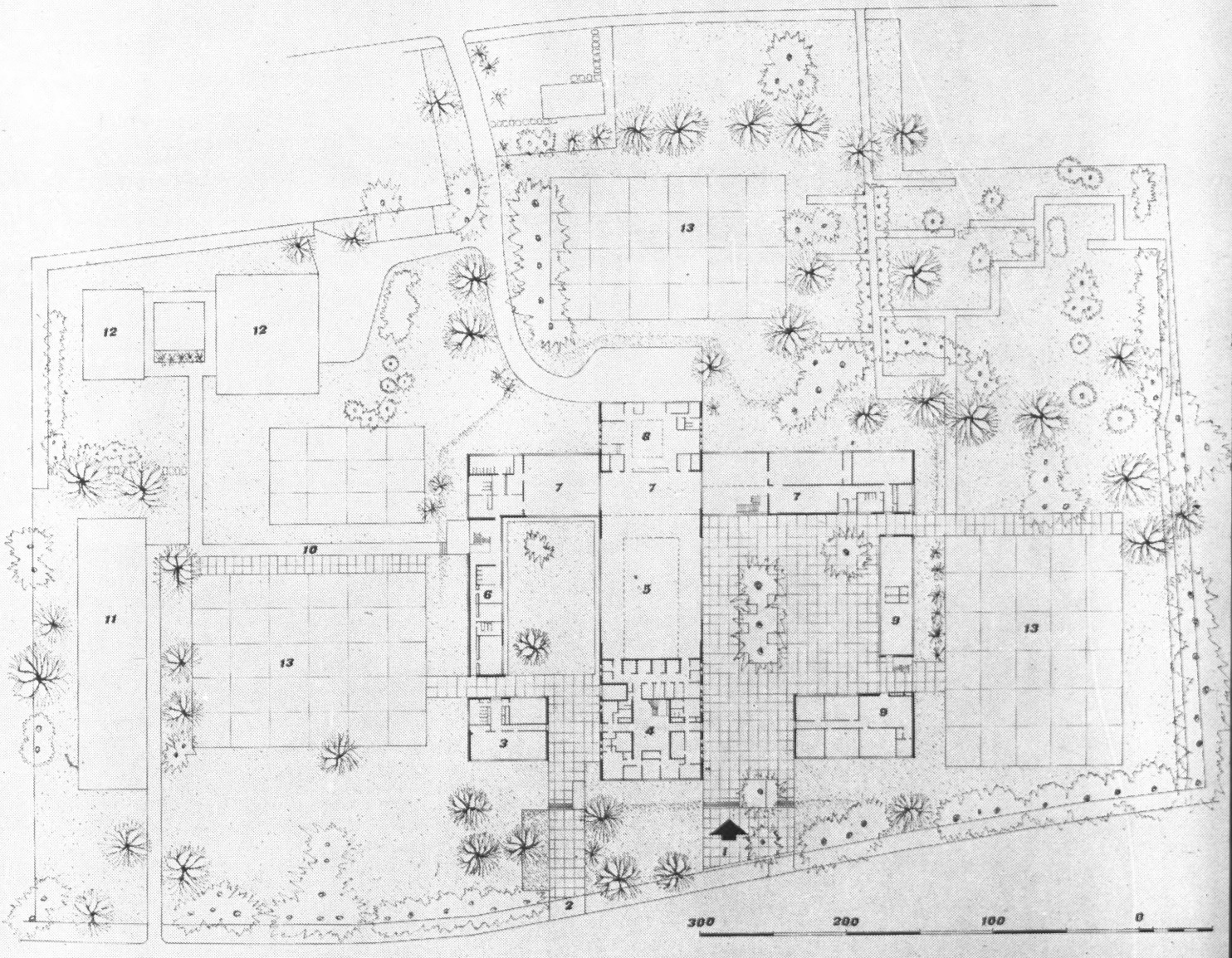
KINGSDALE SCHOOL, DULWICH

key
1, main entrance.
2, staff entrance.
3, staff.
4, administration.
5, assembly hall.
6, medical inspection.
7, dining room.
8, kitchen.
9, classroom.
10, covered way.
11, workshops.
12, gymnasium.
13, Games pitch.
14, Arts & Crafts.
15, Geography.
16, Library.
17, History.
18, Study.

first floor



ground floor

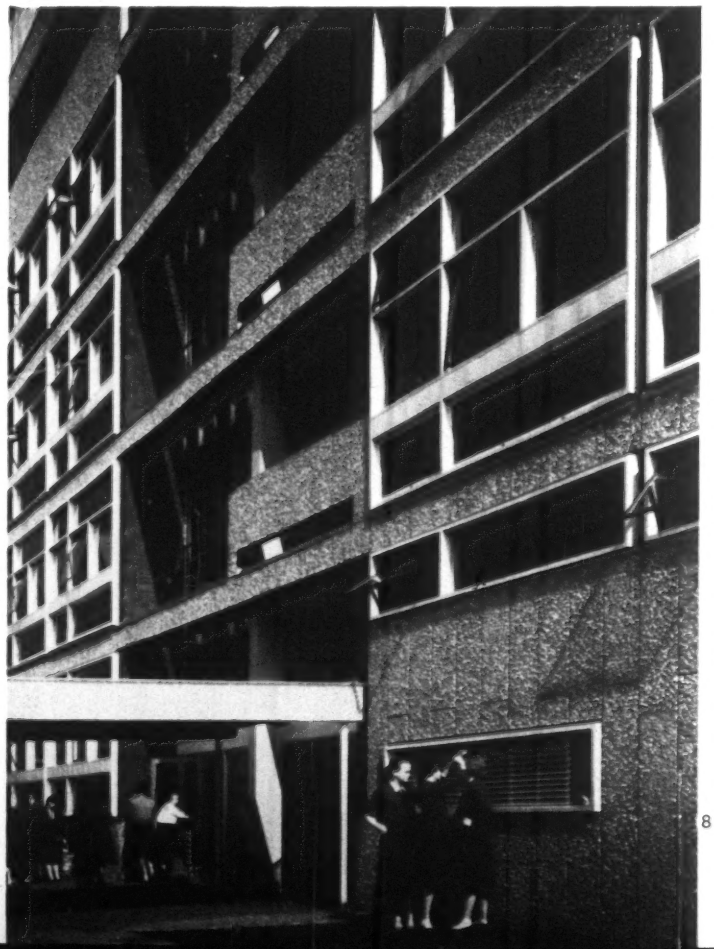


GARRATT GREEN SCHOOL, WANDSWORTH

This school in Aboyne Road is for 2,200 girls and to avoid an impersonal, monumental atmosphere has been designed as a group of buildings integrated with a series of outdoor spaces which lead into one another and differ in function, size and treatment. The buildings are unified by a common dimensional grid and a network of paths and covered ways. The assembly hall contains a drama hall with raked floor and fixed seating within the main hall; the stage is formed with a double range of sliding-folding doors dividing the drama hall from the main hall, which has a semi-sprung floor and can be used as an unequipped gymnasium. The teaching blocks have specialist rooms grouped for ease of supervision and to concentrate services. Art rooms are on the top floor to give top lighting; the fifth floor of the upper teaching block has a model flat with a small enclosed roof garden.

The physical education block has a heated water swimming pool at ground floor level, with sprung and fixed diving boards, and three gymnasia above. House rooms are in two blocks, each with a kitchen, tuck shop

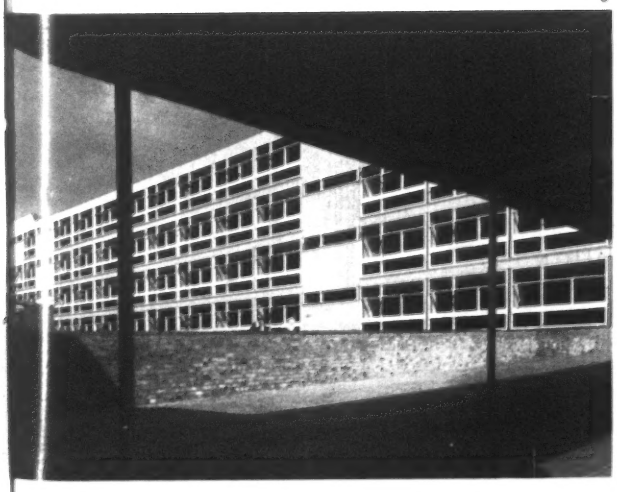
7



8

7, the assembly hall from the south-east. The fascia is of western red cedar above an aluminium curtain wall. The precast concrete plinth has an exposed marble aggregate. The bridge on the left links the hall to the administration block.
8, the main staircase windows of the upper teaching block.
9, the upper teaching block from the covered way, and
10, from the lower teaching block.

9



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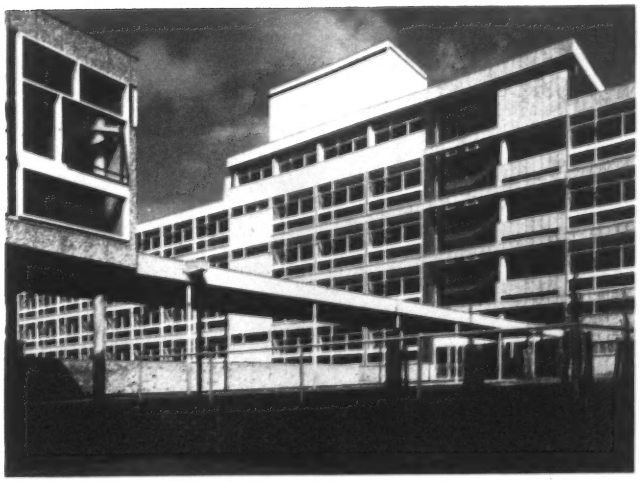
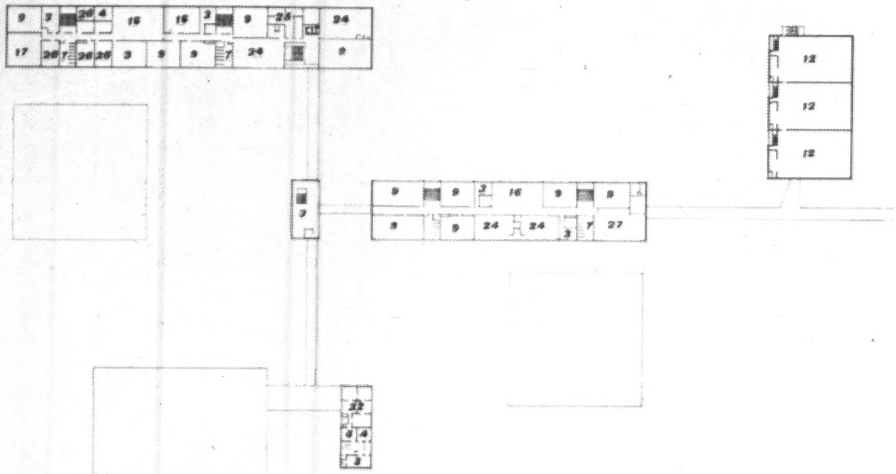


key

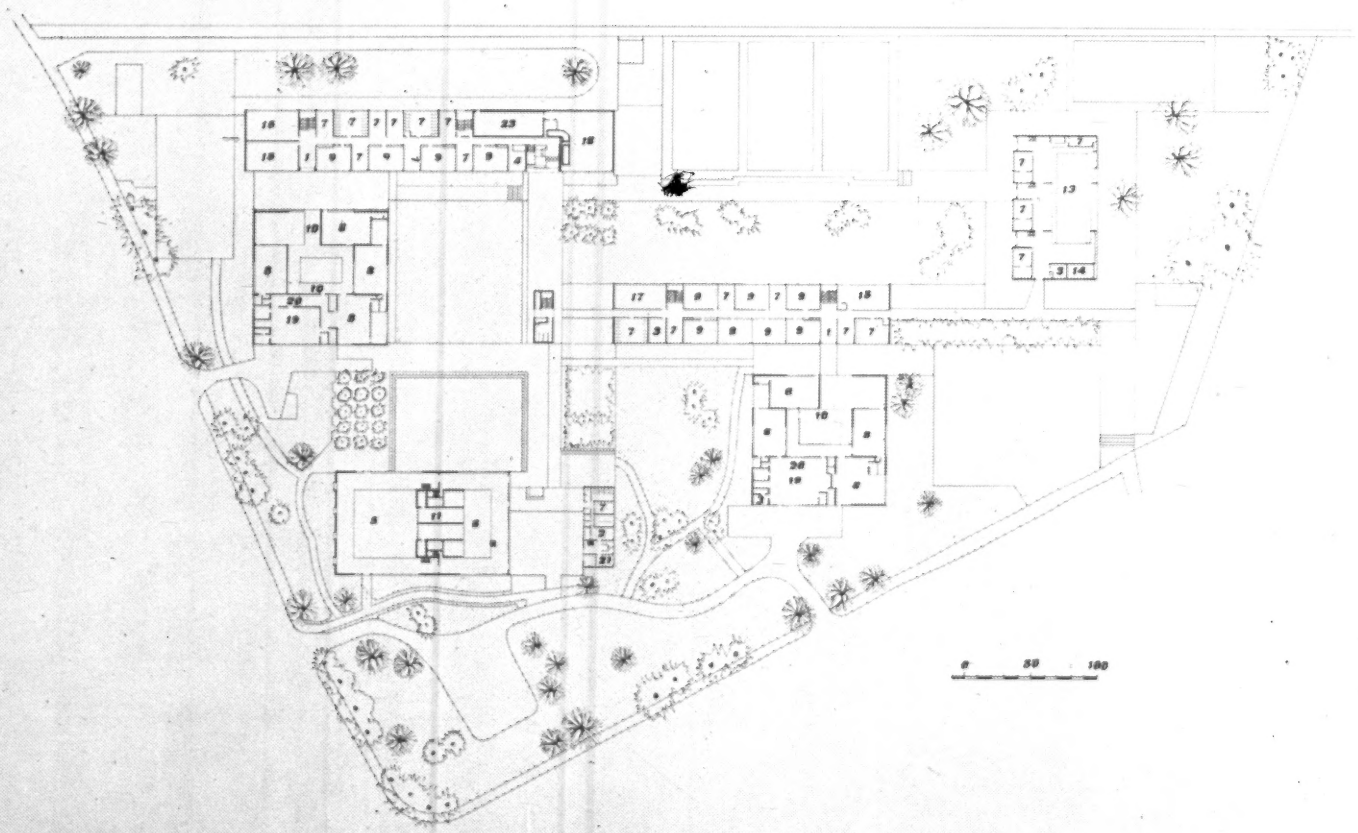
1, main entrance.
2, school keeper.
3, staff.
4, office.
5, assembly hall.
6, foyer.
7, cloakrooms.
8, House room.
9, classroom.
10, covered way.
11, store rooms below drama hall.
12, gymnasium.
13, swimming pool.
14, filter room.
15, Geography.
16, Library.
17, History.
18, boilers.
19, kitchen.
20, service.
21, Radio.
22, medical inspection.
23, oil store.
24, Arts & Crafts.
25, store.
26, Study.
27, Housecraft.

GARRATT GREEN SCHOOL, WANDSWORTH

first floor



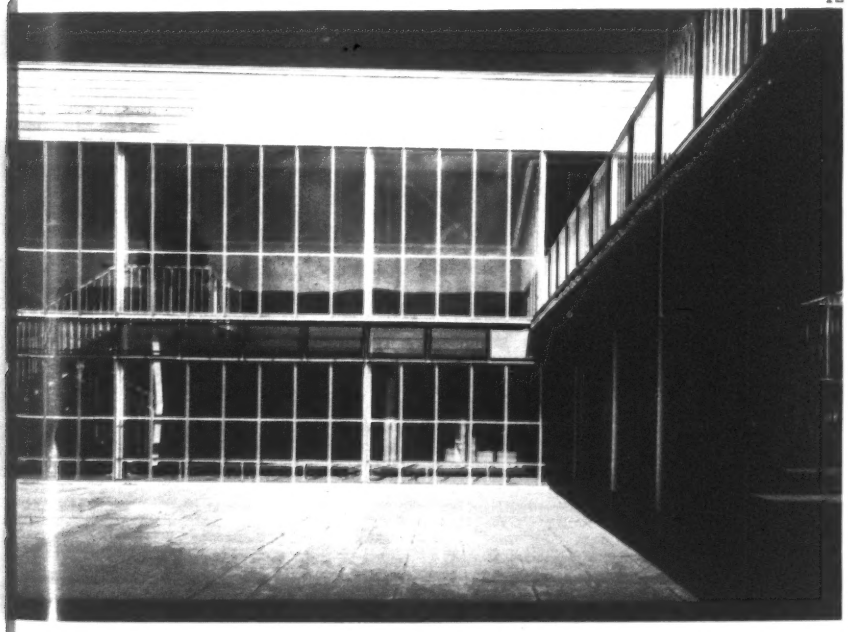
ground floor



11

11, the foyer of the assembly hall with the raked floor of the drama hall on the right.
12, the entrance courtyard.
13, the interior of the assembly hall, showing the plywood acoustic reflector.
14, the drama hall seen from the assembly hall, with the connecting sliding folding doors opened.

12

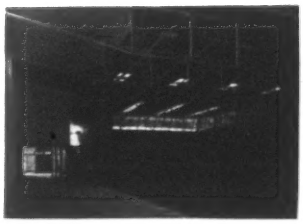


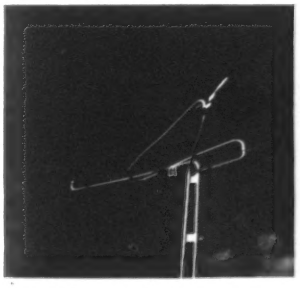
13

and rooms for dining and club meetings. These rooms have their own enclosed gardens and are roofed with exposed laminated timber beams, to give a different and freer atmosphere than the classrooms.

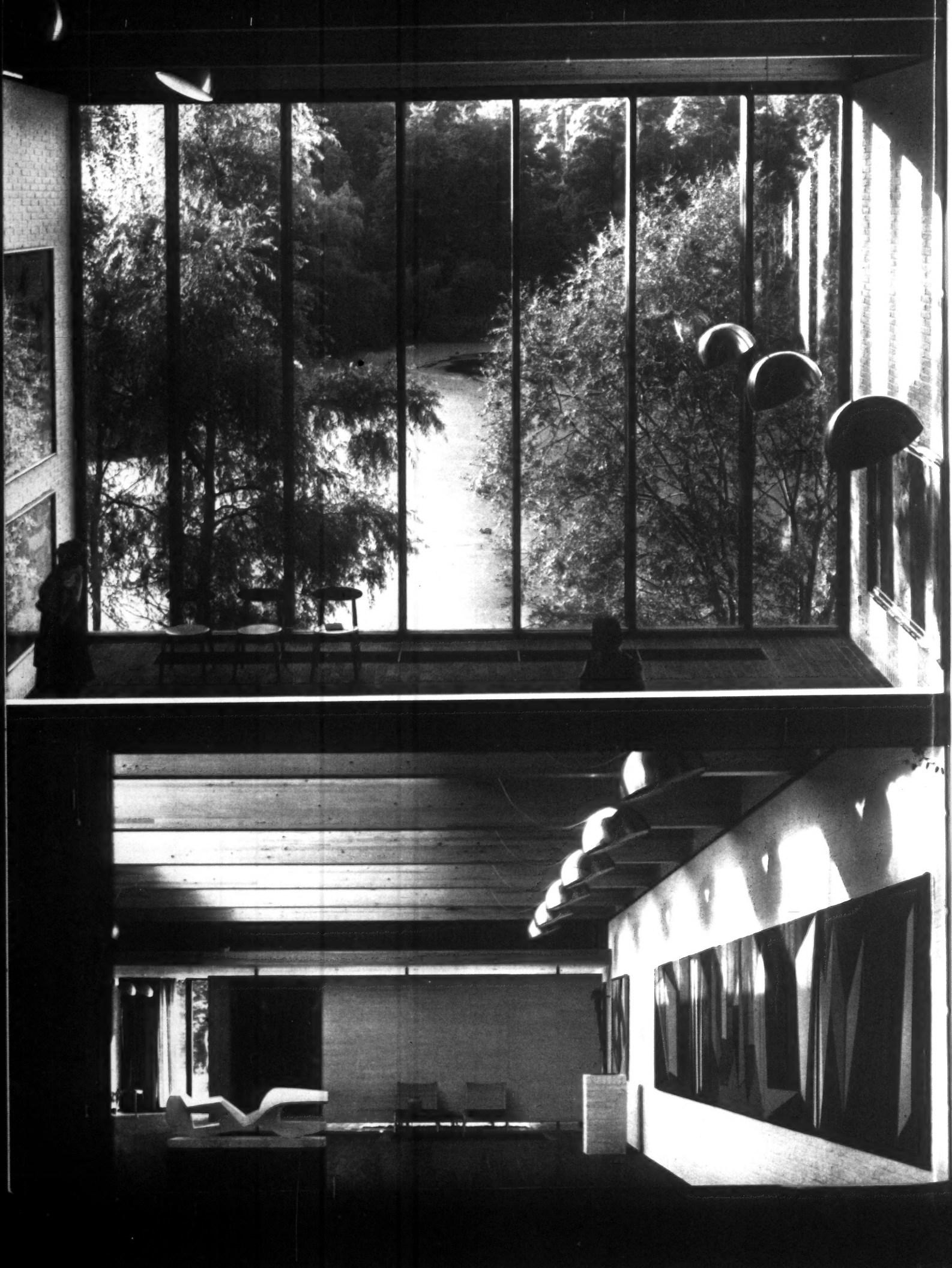
Most blocks have an *in situ* reinforced concrete frame, and the assembly hall has 80 ft. welded steel trusses. Internally the finishes are largely painted common bricks and painted concrete; externally concrete is faced with marble aggregate slabs.

14





15, radio and lamp mast standard in the entrance courtyard.



The Louisiana Museum at Humlebaek outside Copenhagen designed by Joergen Bo and Vilhelm Wohlert is among the most distinguished of recent art galleries.  *In its calm, positive handling of space, structure and landscape, it has been strongly influenced by the architecture of Japan. The result is a successful museum environment although, of course, the idea of the Museum is a purely Western concept. To the Japanese, as to most Oriental cultures, the appreciation of art, except in the religious sense, presupposes ownership and its contemplation in seclusion: the unfurling of a scroll in the tokonoma, the handling of a carving during the tea ceremony.*

Michael Brawne

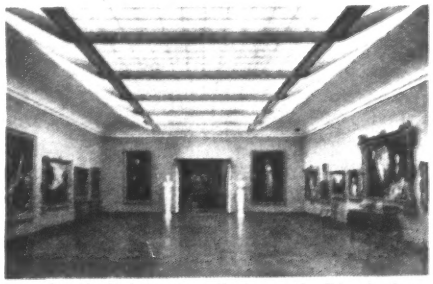
THE PICTURE WALL

Art in the mass for the masses is an artificial creation demanding the most deliberate handling; essentially it is a piece of exhibition technique. Originally a branch of Victorian pedagogic idealism enshrined in the great civic monuments of the commercial renaissance, it has recently been admitted to be as much pleasurable entertainment as moral elevation. As a result our notions about the museum—its purpose and its appearance —are undergoing a radical change.

Few works of art are created with the intention of being seen among several hundreds of their kind as part of a concentrated emotional and intellectual experience. Whether they gain or lose through this juxtaposition is evidently debatable but at the moment, in any case, irrelevant. What is important is that the resultant impact of each individual creation is modified and that there is an involvement in a new kind of experience; the museum as a totality becomes as much a means of communication as each of its exhibits. It may be argued that this is merely the application to art display of the general notion that objects have little graspable reality in isolation. It probably goes further than this though. Reproductions, films and books on art, what Malraux calls the 'museum without walls', have made it possible to judge an individual painting and its details, visual as well as historical, in seclusion. They have done for painting what the gramophone has done for music. But just as a concert performance is an event in its own right, influenced directly by the form and feeling of the concert hall, so a museum display is an event in

its own right, an experience which goes further than the study of individual works. It is the translation into building terms of this particular challenge which is perhaps the main architectural problem.

Museums of one kind or another are favourite subjects in the curricula of schools of architecture since they are assumed to allow for the unhampered display of architectural virtuosity. This is, of course, a highly questionable assumption. The few which have actually been built in the last fifteen years or so have, fortunately, seldom started from this false premise. They have more often experimented with the new notions which have been developed about art viewing. Recent museums in Scandinavia, Italy and both North and South America are serious and fresh appraisals of displaying and preserving an accumulated art treasury. One must hope that the awakened interest in the architectural aspects of the picture gallery now current in this country will produce equally significant solutions.



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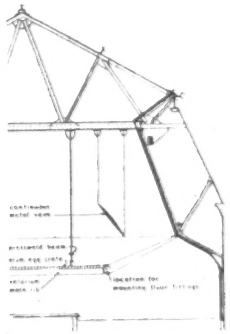


2

1 and 2, the lighting installation at the Birmingham City Museum and Art Gallery by Sheppard Fidler in conjunction with the Building Research Station is a development of the work done earlier at the Boymans Museum, Rotterdam.

This interest has been largely awakened by the competition for the National Gallery site.* It is a great pity, however, that the conditions have been framed in specific terms limiting the possible solutions. This is particularly unfortunate since neither the social role nor the technical equipment of a picture gallery is by any means defined. There is certainly no agreement on the most suitable methods of lighting and yet these are precisely stated in the conditions. The whole organization of the gallery hinges on this initial choice.

Derek Phillips discussing the Building Research Station work on the lighting of the converted Birmingham Art Gallery has suggested the following criteria for desirable viewing conditions:

1. The distribution of light should be such as to give the greatest amount of light on the paintings.
2. The brightness level of the wall should be related to that of the pictures so that the eye can adapt to the two and see detail clearly.
3. No bright source, sky or artificial light, should be seen when viewing pictures.
4. Reflected images should be avoided.
5. The room as a whole should appear well lit.

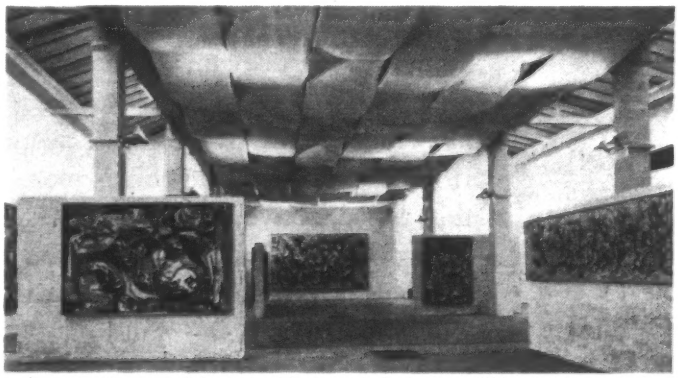
These are the basic principles of visual comfort applied to the particular problem of looking at pictures and must in most cases be satisfied. These desirable criteria tend, however, to assume an undue importance in the design of some galleries and to be extended too readily into the belief that there is in fact a closely definable, single condition which produces an ideal environment. This, it would seem, is a mistaken notion of primitive functionalism which in turn only too easily leads to the sort of result visible at Birmingham, 1 and 2.

Two considerations have been lost sight of: the first, that pictures are not all alike, the second, that the eye, like the rest of our body, does not function at its best under static conditions.

It could be argued that, to be completely rigorous, paintings should be seen in the sort of light in which they were produced if their colour rendering is to be correct: Florentine primitives in the diffuse light characteristic of a palazzo, the Dutch masters in the controlled illumination of narrow deep and shuttered windows, like a vertical series of stable doors, post-Impressionists under the open sky. No art gallery has yet tried to re-create such individual environments; perhaps no gallery should, for looking at pictures is, as has already been said, an artificial occupation which needs to be recognized as such and which would not be made more natural by pastiche illumination. But the opposite does not hold true. Successful gallery lighting does not consist of reducing every room to an even, supposedly ideal condition. There must be changes of lighting form, changes of mood and, most important, rest stops. These variations should be related to the exhibits so that space and paintings can form a coherent experience.

Something of this sort was suggested by Sir Kenneth Clark when he discussed an 'ideal' National Gallery in which he would hang Early Florentine pictures in low, severe and simple rooms, the Venetians on red silk in richly decorated spaces and Dutch paintings in small panelled chambers lit from the side. The architectural unity of the gallery must, nevertheless, as Sir Kenneth emphasized, be kept intact and override the individual elements.

At a very simple, but perhaps rather more subtle, level this variety was demonstrated within a single room at the recent Jackson Pollock exhibition at the Whitechapel Art Gallery, 3. Under a baldachino of

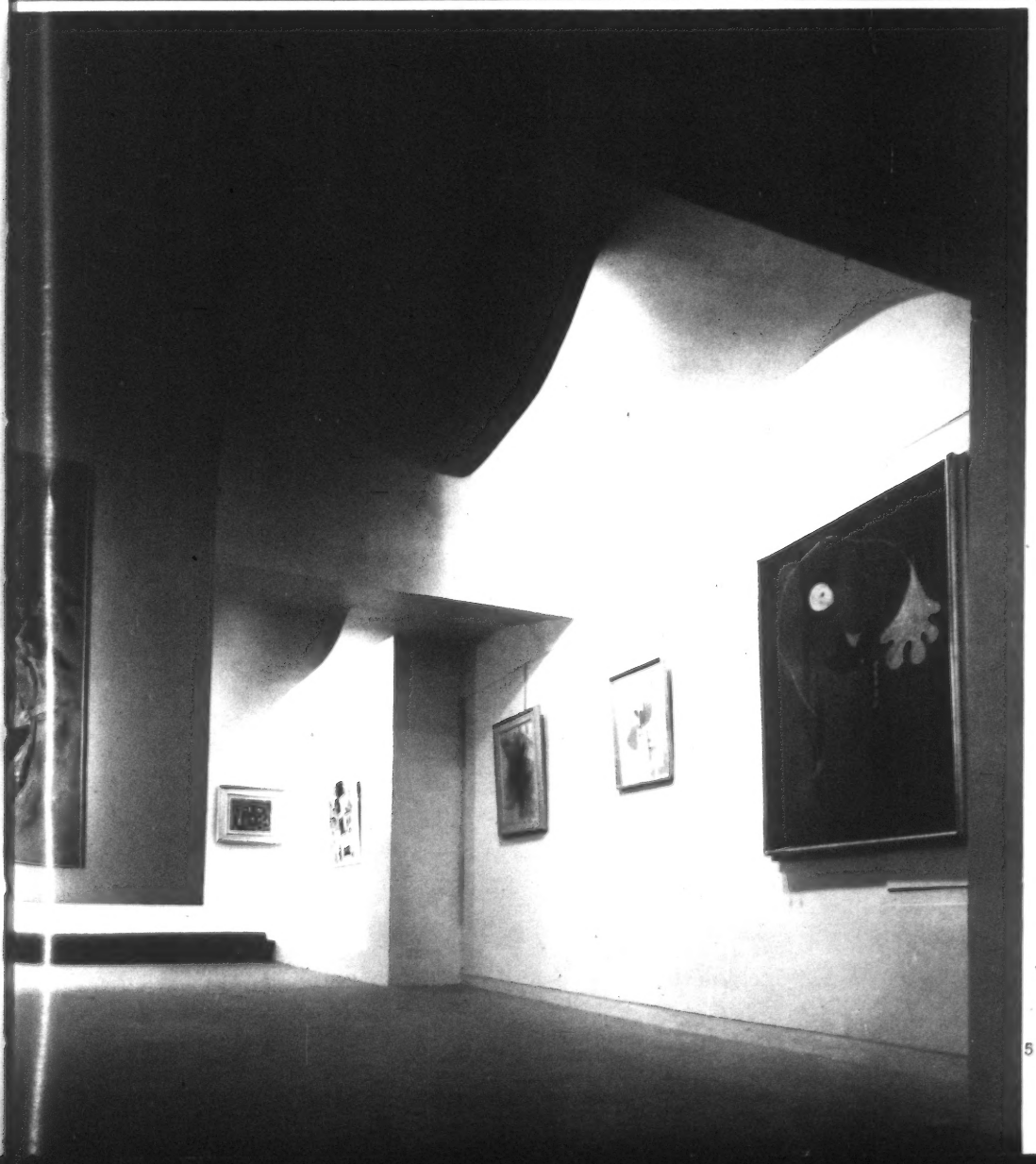


3, the recent showing of the work of Jackson Pollock at the Whitechapel Art Gallery, in a setting designed by Trevor Dannatt, demonstrated the great virtues of a varied layout related to the exhibits.

* The *Sunday Times* Competition for an Extension to London's National Gallery. The handing in date was May 8th and it is hoped that this article and the accompanying illustrations will help towards an informed assessment of the designs when they are made public.

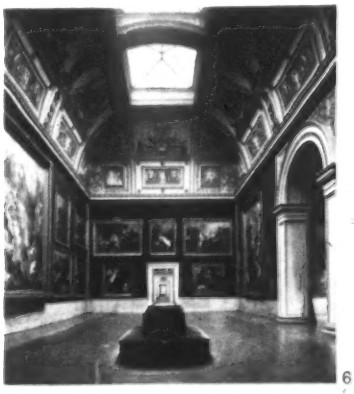
[*continued on page 323*

4



5

4, Louis Kahn's Art Gallery at Yale University, New Haven, concentrates the drama of its architecture in two elements: the ceiling and the staircase enclosure. Both are of bare shuttered concrete. They thus become the massive and unifying elements of the building between which the pictures and sculpture, spot-lighted by lamps set within the tetrahedra of the ceiling, shine with an almost gem-like quality. This is not the emasculated architecture in which works of art were to find their rightful place by being in a neutral setting, but a virile environment genuinely complementary to the great treasures it shelters. 5, the World House Gallery in New York, though executed in a different idiom, starts with much the same intention. It is an attempt by Kiessler to provide a sculptural space which paradoxically enough through its fluidity would at the same time be a dominant visual element and a subdued background.



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7

6 and 7, the Rubens Room at Munich's Alte Pinakothek before and after the war shows only too clearly the so-called improvements done in the name of 'correct' lighting. In the earlier room it is difficult to decide where one art form ends and the other begins; in a very different idiom this seems equally true today of the Yale Art Gallery or Kiessler's continuous envelope.

THE PICTURE WALL

8, *Ahrbohm and Zimdahl's museum at Linkoping in Sweden is one of the early examples of lighting controlled by means of louvres. As at the Boymans in Rotterdam,* **11**, *artificial lighting is also concealed above the fins,* **9**. *Unlike the Boymans, however, the lighting is not symmetrical in relation to the room so that the fourth wall is relatively dark.* **10**, *behind this wall is a continuous storage space for pictures not currently in exhibition. By present-day standards the storage is perhaps small; in some recent cases it has been as high as 40 per cent of the area used for exhibition purposes.*

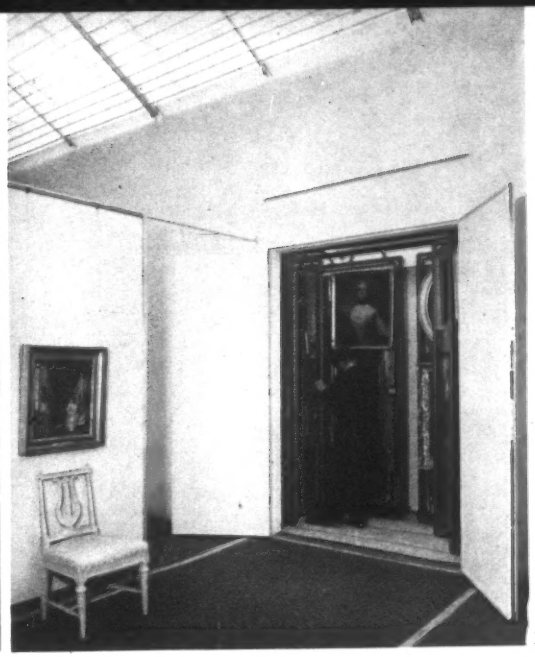
8

15, *the new addition to Amsterdam's Stedelijk Museum was designed by the City Architect and expresses to a large extent the ideas of its director, Carl Sandberg, who has for long been an eloquent protagonist of the new role of the museum. Both the ground floor,* **12**, *and the first floor,* **13**, *are side lit with the lighting controlled by Venetian blinds. On the upper floor the artificial light is at night reflected from the bank of closed Venetian blinds,* **14**, *so as to simulate directional daylight.*

12

Ignazio Gardella's Museum of Modern Art in Milan is in the great tradition of post-war Italian museum design, a single volume articulated by means of changes of level and movable screens. The sculpture gallery is side lit so that the modelling may stand out and the lowest level faces a heavily wooded park. **21**, *this glass area is covered at night by counterbalanced grilles, here seen raised.* **16**, *at a half level above the gallery is the main exhibition area with its movable screens enclosing room-size spaces,* **17**. *At a half level above is an open gallery for small pictures, and beyond,* **18**, *the long gallery for etchings.* **19** *is a plan at the level of the picture gallery,* **20** *a section showing the three levels.*

16



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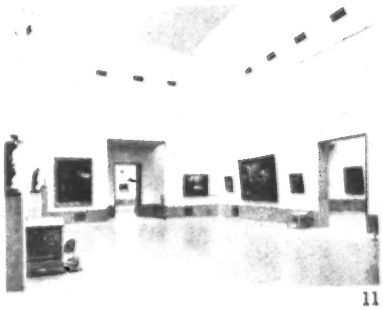

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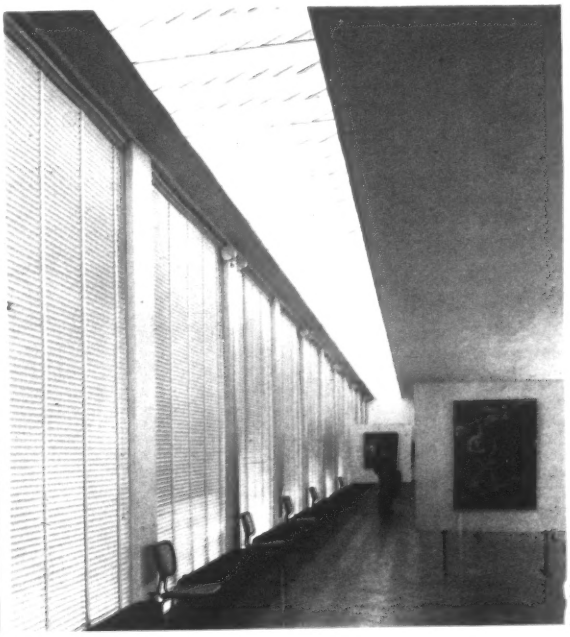

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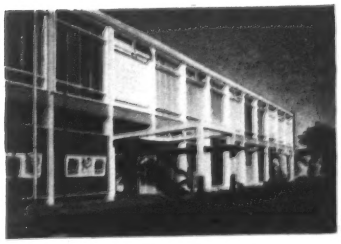

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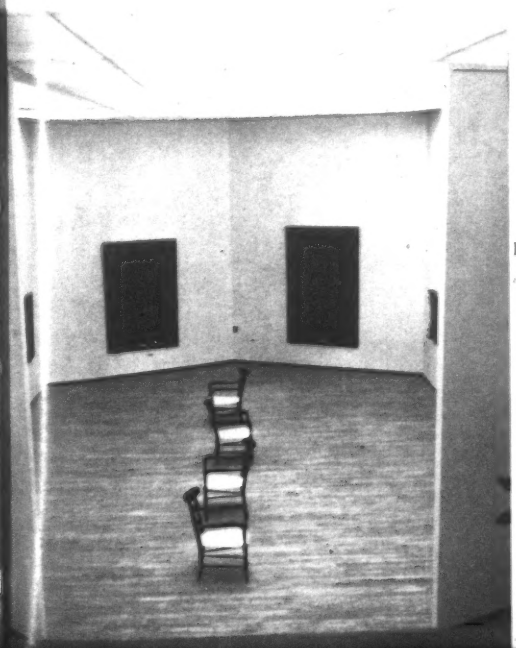

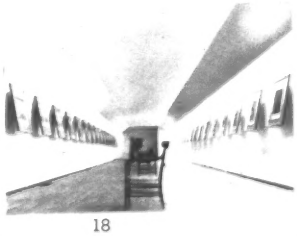

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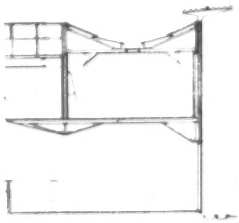

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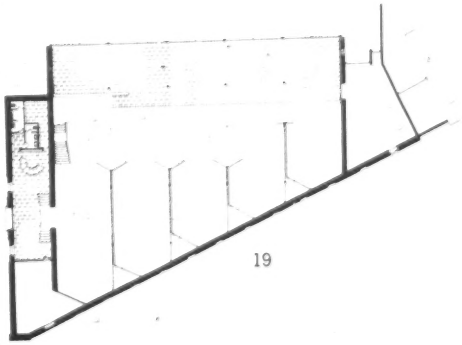

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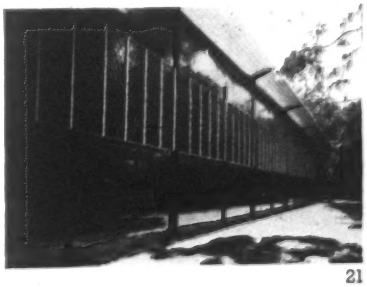

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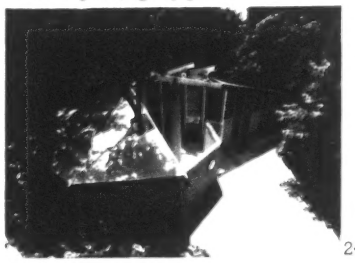
Gropius has suggested in an essay on the 'Form of the Museum' that there is at times a need to bring the visitor to that 'neutral state' from which further intensive appreciation is possible. The view beyond the picture wall may easily provide that necessary change of pace.



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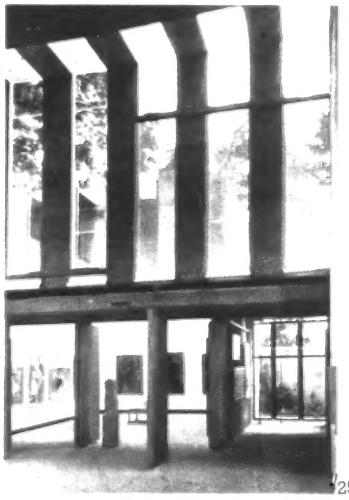

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28 → 29

22 and 24, Studio BBPR's Canadian Pavilion, and 25, Carlo Scarpa's Venezuelan Pavilion, both at the Venice Biennale, use the rich park-like setting to occasionally draw the eye upwards into the dapple of foliage. Whether this justifies the placement of pictures against a glass wall is, of course, open to question. 27, 28, 29 (and page 314), the Louisiana Arts Museum, built as a series of linked pavilions overlooking on one side a lake, on the other a Sound, at Humberlæk, Denmark, contrasts enclosed spaces, such as 28, containing water colours likely to fade with open sunlit rooms. On the grand scale Affonso Reidy, in Brazil, has done much the same thing, bringing the panorama of Rio de Janeiro into the display, see cover. 23 and 26, Audigier and Lagneau have gone even further and designed the Museum at Le Havre as a complete glass envelope shielded by an aluminium umbrella.

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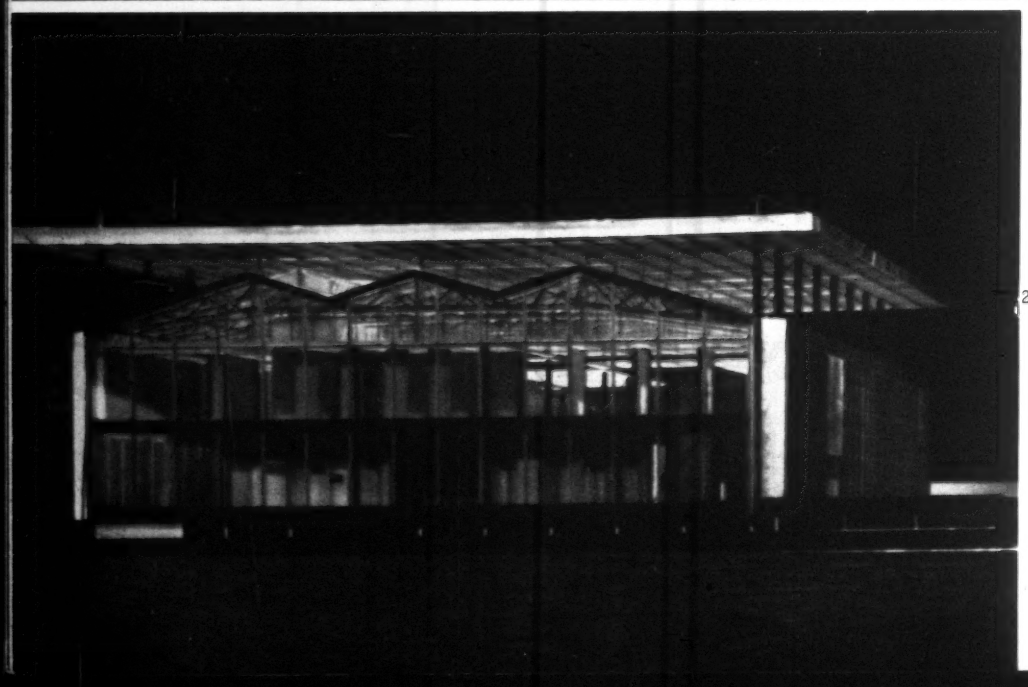

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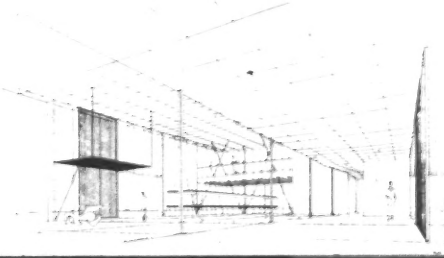
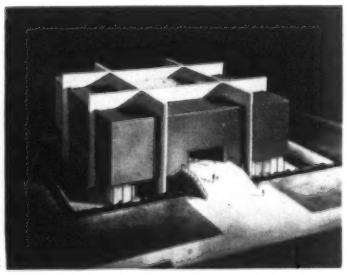


THE PICTURE WALL

The concept of the great room, a single open space infinitely flexible, has long been associated with Mies van der Rohe. It has much to commend it as an exhibition space, particularly if used imaginatively by the museum director. In certain circumstances it may be the only possible answer and the design must concentrate on the enclosure and a variable method of display and relate the two in terms of space and lighting. Mies has unfortunately only been able to

30

execute one picture gallery. 30, 31, *Cullinan Hall is in fact an addition to what was the back of Houston's Museum of Fine Arts. This may partly explain why it falls short of the project for a museum,* 38, *which he designed in* 1942 *and which is still the archetypal building for that particular museum form. The exhibition space at Houston is a great hall* 10,000 *sq. ft. in area,* 30 *ft. high, lit by a wall of grey glass in a steel frame.*



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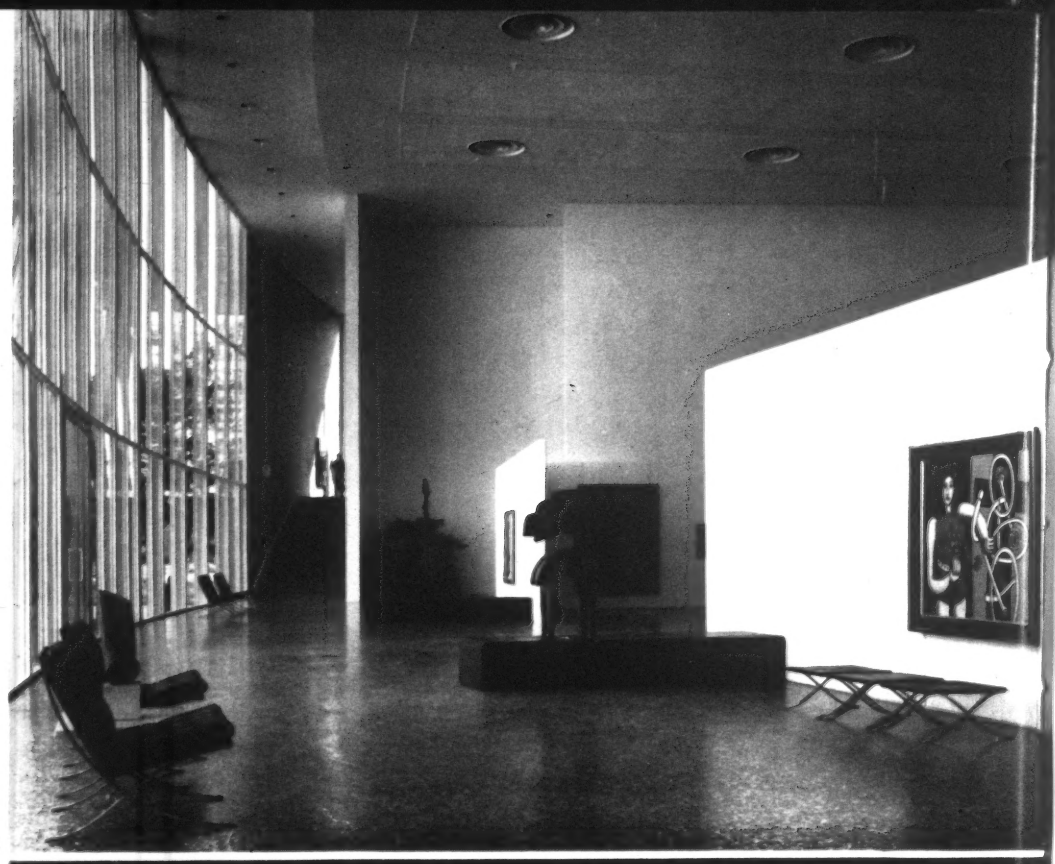
32, 33, 34, *the idea of the free space has obviously also influenced the design of the new building for the Munson-Williams-Proctor Institute at Utica, N.Y., only here Phillip Johnson has chosen to light it by a vast central skylight composed of plastic domes. The upper level of the museum is suspended from the roof so as to leave the main floor completely unobstructed.* 33, *the main entrance.* 34, *entrance façade with one wall of the model removed.*



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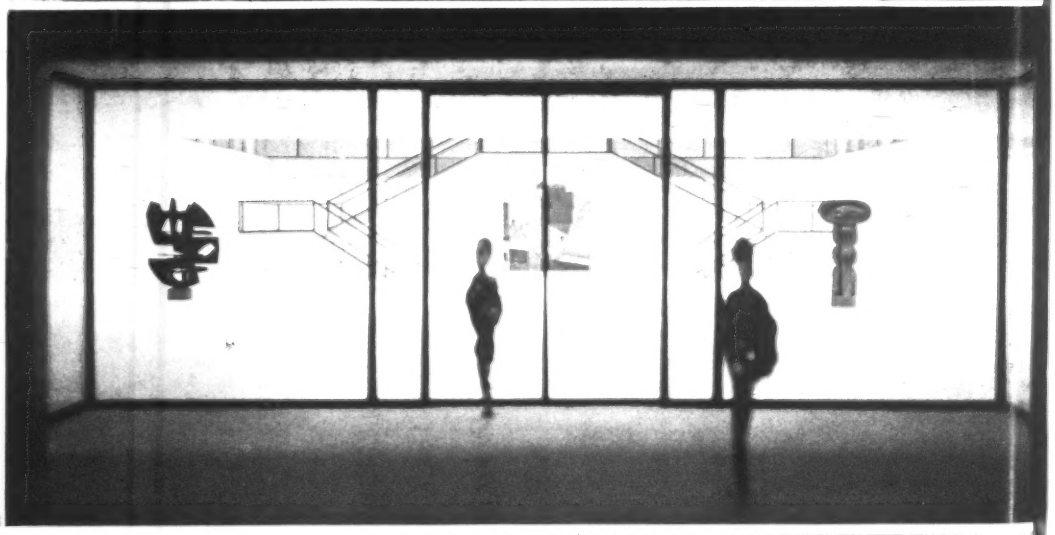

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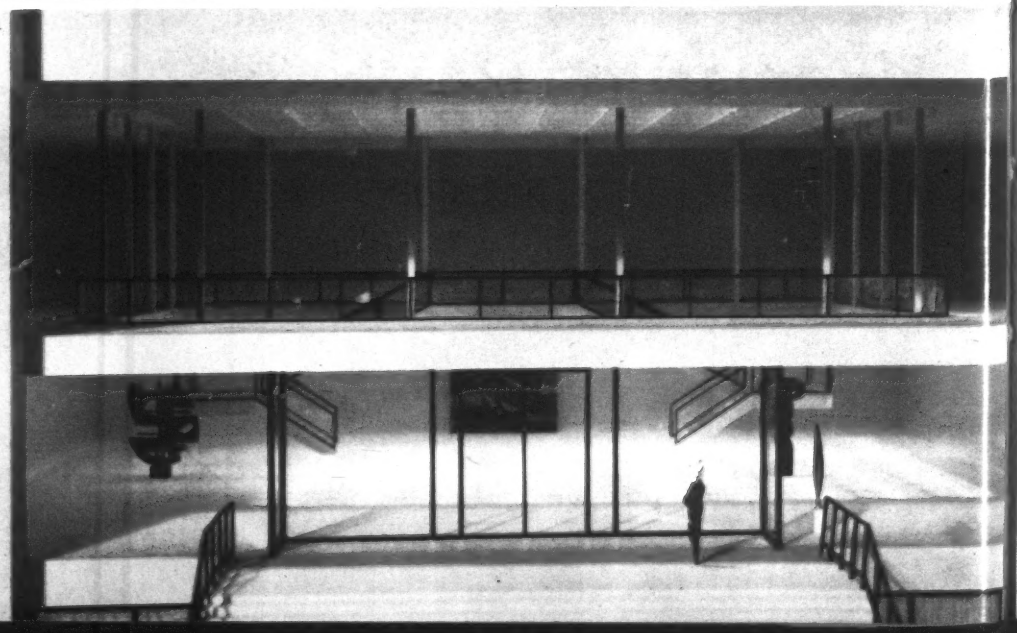

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continued from page 316]

white muslin the space was organized somewhat like that of a cathedral: the nave had low blockwork walls on which the smaller paintings were hung, at the crossing the floor finish changed, there was a pause, one looked right and left to see at the end of the north and south transepts large paintings brilliantly lit from the side, and beyond that, at the east end, were two vast canvases illuminated from the floor, the largest and most strongly lit exhibits in the gallery. The exhibition became thus both a series of paintings to be seen and felt individually as well as a progression that gave some meaning to the whole.

This kind of change is in any case highly desirable if the eye is to remain alert. It has been known for some time that in terms of bodily comfort the continually and slightly fluctuating conditions of a warm spring day are those which are at the same time the most stimulating and comfortable. Much the same appears to be true of vision. Physiological research on the mechanics and chemistry of the eye has shown that there is a continuous photochemical reaction going on in the receptor rods of the retina and that the retina itself is in constant vibration shifting the image across the receptors. The eye relies in fact for effective sight on alternate moments of action and inaction, the most apparent symptom of which is blinking. It is in this instant of darkness that the photochemical process is reversed and regenerated. It would seem that on the larger scale of vision as a whole, as a means of perception, very similar conditions are needed. Museum fatigue may thus be due not only to the inevitable mental and emotional concentration combined with the physical effort of standing and walking, but also, perhaps, to the tiring effects of static illumination. The museum visitor may often, though probably less consciously, be as eye tired as he is foot sore, particularly since seeing is such a dominant part of the whole activity.

In this context, several characteristics of the illumination within a gallery are capable of being varied. Colour, intensity, direction, quality may change—north to south, light to shade, top to side, diffuse to directional—as one walks from room to room or, as one saw at the Jackson Pollock show, even within one room. The art gallery at Lund, opened in the autumn of 1957, successfully attempts a number of these changes within the limits of a small urban site. The space is mainly top lit from north-light type roof trusses, but these face north, south and east. In addition, there is side lighting from east and west windows on to a central courtyard and directional illumination from narrow slots which also connect one visually with the world outside, 35 and 36.

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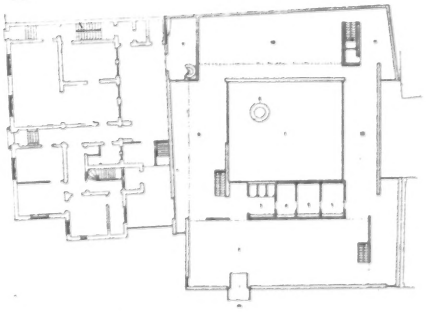

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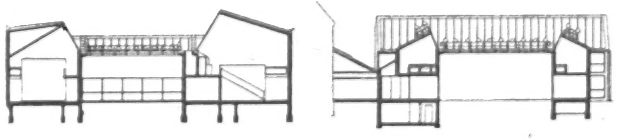
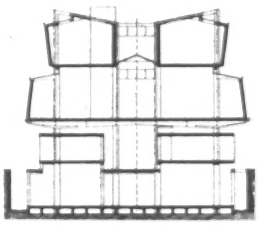


35, 36, the plan and sections of Klas Anshelm's art gallery at Lund in Sweden show clearly the spatial variety and the differences in lighting possible in even a small building.

Each of these characteristics is, of course, variable both in terms of space and in terms of time. Photography and the lightmeter have made us keenly aware how acute these fluctuations are, for example, in a visually comfortable outdoor setting. We have not yet, however, been able to re-create this sense of variety and reconcile it at the same time with the exacting demands of museum lighting. Perhaps not enough galleries have been built in recent years to make the challenge sufficiently real. Too much of the available effort may also in any case have been concentrated on the elusive quest for the ideal cross-section of a top-lit gallery. This is particularly unfortunate since top lighting may not in fact be the most desirable method. Its great architectural drawback is that space tends to lack direction, acquires often almost a sense of unreality. Its chief difficulty in terms of illumination is that it can produce an area within the field of vision which is considerably brighter than the picture on the wall. If, on the other hand, this source is rigorously shielded, it may not be able to throw sufficient light far enough down the wall. The wall is then graded from light to shade between ceiling and floor and the pictures are again competing with surfaces brighter than themselves. When this happens one's perception of colour values may be affected.

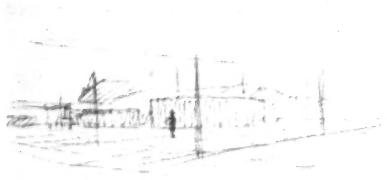


37, it is seldom that so uncompromising a personal vision as Bassi and Boschetti's design for the Museum of Modern Art in Turin is awarded the first prize in a national architectural competition. It is still incomplete and its extremely ingenious lighting arrangements have yet to be appreciated.

The great argument in favour of daylight has to some extent been based on its ability to provide part of this variety automatically, as it were. The changed social role of the museum—its function in the leisure activities of a wide public—has, however, meant that it must remain open during parts of the day when artificial illumination is inevitable. Attempts have, therefore, been made to blend the colours of electric light to produce an illumination as close to daylight as possible. The most satisfactory answer so far seems to be a combination of two kinds of fluorescent tube, 'daylight' and 'warm-white de-luxe.' Fluorescent tubes may in some instances not be advisable, though, since there is an invisible ultra-violet radiation from the mercury vapour discharge. This radiation has a spectrum band of very short wavelength which can cause photochemical deterioration of certain exhibits. There is little agreement as to the amount of harm which is likely and fluorescent lighting is thus in widespread use.

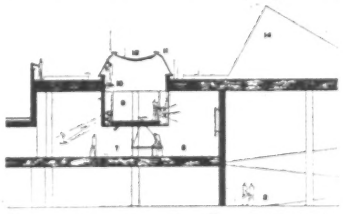
The result of colour-corrected fluorescent illumination is evidently only an approximation to natural light, but this itself is so often, after all, 'artificial' in relation to a particular picture. A Uccello in the glimmer of a murky midwinter sky in London cannot have the same colour rendering as in the light of an

Apennine hill town. Perhaps, therefore, it has been suggested, daylighting can be abandoned altogether. The notion is particularly tempting since large glass areas tend to increase the running costs of the air-conditioning system and the sun and glare control devices which become necessary are expensive. Cleaned air makes it, of course, possible to remove the glass from the pictures and thus produce much more tolerable seeing conditions. The two problems are related. The condition is, perhaps, somewhat analogous to factory design where a similar search for an 'ideal' section was frustrated by economics and the obstruction caused by overhead equipment, and the opposite solution of an unbroken space artificially lit offered many advantages. Accepting this art gallery form, the next step may, as William Allen of the Building Research Station suggested for the factory, be to puncture the space with patios purely for visual escape. The prototype for such a design is, Mies van der Rohe's Museum project for a Small City, 38.

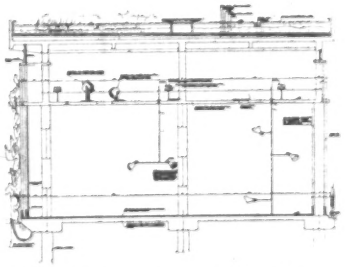


38, *project for a Museum for a Small City by Mies van der Rohe,* 1942.

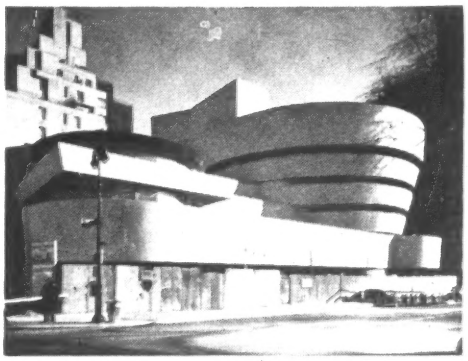
One of the considerable potentials of artificial light is that it makes highly controlled illumination possible. Light can be localized to create dramatic situations. Two of Le Corbusier's as yet unfinished buildings will explore these possibilities. Borrowing the techniques of the theatre, there is an electricians' gallery in Tokyo's 'National Museum of Fine Arts of the West' from which projectors can be manipulated to light exhibits, 39, and at Ahmedabad simpler methods attempt the same thing, 40. Le Corbusier has described the installation with characteristic enthusiasm: 'Henceforth it will be possible to employ the illumination in solo, in duo, in trio, in symphony—uniformly subdued or sharply accented—analogous to the system of a musical score. The illumination has become an integral part of the museum's impression on the visitor. It is raised to the level of emotive power. It has become a determining element of the architecture.'



39, *section through Le Corbusier's Museum in Tokyo with the electricians' gallery in the centre and,* 40, *above, a section through the exhibition hall of the Museum at Ahmedabad.*



Illumination both as a variable element and as a method of emphasis is in large measure related to the system of circulation and the attitude towards display technique. The tightly grouped rooms typical of the great national collections do not easily lend themselves to a flexible daylighting technique; a small gallery like the delightful Louisiana Arts Museum in Denmark does. Wright, with considerable determination, demonstrated a fusion of lighting and circulation in the nearly completed Guggenheim Museum. Whether the unchanging relationship of picture, lighting and the observer on the way down the spiral ramp will, in fact, provide a satisfactory solution has yet to be seen. One has a considerable suspicion that the 'organic' form of the gallery will preclude an 'organic' functioning. In fact, the Guggenheim is really an extension on the section of Le Corbusier's project for a Museum of Modern Art done in 1931. Unlike the Guggenheim, however, the Corbusier design and its subsequent refinements at Ahmedabad and Tokyo do not insist on a closed system of circulation.



41, *the opening of Wright's Guggenheim Museum is awaited with interest so that the success of the continuous spiral as an exhibition space may be properly gauged. At the moment it is still only a dramatic gesture facing Central Park.*

This distinction between a free and a closed system—between a choice of what to see and what not to see at a certain time and the necessity to go through the cultural production line from beginning to end—has been under debate for a considerable period. The great picture galleries of the last century tended towards an endless series of rooms from which escape was difficult or impossible; more recent museums have, as part of their changed outlook on their function, adopted less constricting circulation patterns. While there may be some argument in favour of a predetermined sequence for certain parts of some museums, such as a chronological order for archæological exhibits or the steps of a scientific discovery, there seems little need for it in relation to the aesthetic experience of an art gallery. One knew, after all, even before the more recent museums produced their liberating influence that the most pleasurable places were the free, almost domestic museums, like Soane's Dulwich Art Gallery or the palazzo at Urbino or, despite its execrable lighting, the curious Elizabeth Gardner Museum at Boston.

Whatever their precise layout, galleries, like all other buildings, were until recently always a series of

42, *it is a pity that London's only gallery built since the war—Adams, Holden and Pearson's Courtauld Institute—should house such a splendid collection in so dull a space. The gallery feels like a conversion; in fact it is a new building.*

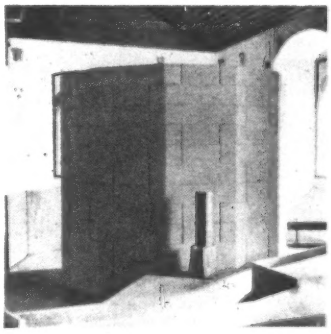
related rooms—a set of closed boxes—and it was an exhibition building which in Europe first convincingly destroyed this space concept. The German Pavilion at the 1929 International Exposition in Barcelona formulated instead the idea of space as a continuous flow channelled and regulated by screening planes. Picture galleries are ideal applications of the theory of enclosure by non-structural elements arranged so that one is led from one vertical plane to the next. It makes possible, for example, the grouping of pictures by one painter on the same screen, the arrangement of paintings belonging to the same school on adjacent screens within the same enclosure, as well as surprise juxtapositions of related pictures by revealing these not contiguously but in sequence. As the extent and position of these screens is variable, the scale of the enclosure can also be manipulated. The impact a picture makes is never entirely unrelated to its surroundings. Rogier van der Weyden's small Portrait of a Lady used to hang in a comparatively narrow communicating passage in the National Gallery, uncrowded by other paintings. It is now in a large room on a wall full of pictures. Its visual appeal is still the same, but the impact it makes is different.

Problems of circulation are not, of course, confined to the spaces within an art gallery. They extend especially to its perimeter. Two obvious alternatives immediately present themselves: the gradual approach through vestibules past post-card counters to antechambers or the precipitous plunge from market place to art gallery as at Lund, 35. The choice in the last resort probably depends on a decision on the function of art in society. It may be that what is now necessary is an almost imperceptible transition so that the apparently separate realities of outside and inside may become less divergent. To make possible, in fact, a cross-reference between painting and street so that the first may become more real, the second less squalid.

Both lighting and circulation are only architectural tools in the process of making an art gallery an enriching experience. Equally so is the actual disposition of the exhibits, the assumptions behind the display technique. The fundamental question to be decided is whether the exhibits are to be positioned more or less regularly on the walls with the few exceptions now decreed by tradition, such as the placing of tryptichs altar-like in the middle of end walls, or whether they are to be shown so that circulation and lighting are related to the content. It is a decision which despite the urge towards limitless flexibility must be made early in the design of an art gallery.

Studio BBPR's decision in the remodelling of the Museo del Castello Sforzesco in Milan was clear cut. It is particularly evident in the arrangement of the space around Michelangelo's Pieta Rondanini, 43 and 44. A wide hall steps down towards what appears as a fortress-like embrasure, the steps narrowing and pointing obliquely at the side, forcing one between the wall of the room and the faceted screen. At the foot, one turns through ninety degrees and there, suddenly revealed within the enclosure, is the rough hewn form of Michelangelo's marble.

The drama of that display is, as all gallery arrangement, dependent on the relation between a stationary exhibit and a moving observer. This is, however, not



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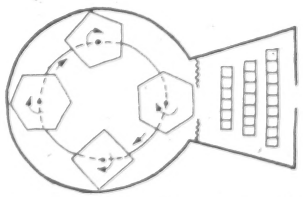
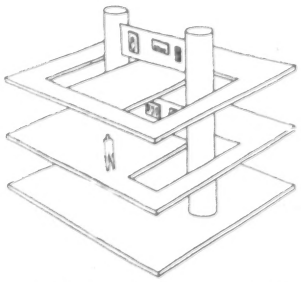
Studio BBPR's conversion of the Castello Sforzesco; 43, the approach down the steps towards Michelangelo's Pieta Rondanini, 44.

the only possible method of looking at works of art. The position can, in fact, be reversed. Lina Bo Bardi, the architect of the Sao Paulo Museum, has suggested a lecture theatre in his project for a museum at Sao Vincente in which paintings are hung on revolving drums mounted on a revolving stage so that a large number of pictures can be shown to a seated audience, 45. This is obviously a useful technique where a spoken commentary has to be illustrated with examples. Ciceros Diaf has put forward an idea for a gallery in which the pictures are hung on turnstiles safely housed within large drums. Outside the drum there is a panel of reproductions and switches by which the paintings can be chosen. The turnstile releases the selected painting which is then moved out of the drum on to a wall. Two or three pictures can be placed there simultaneously and are returned when no longer needed. In the scheme put forward by Diaf the storage drums are also the structural supports of the museum and the space is organized around these and the related wall space, 46.

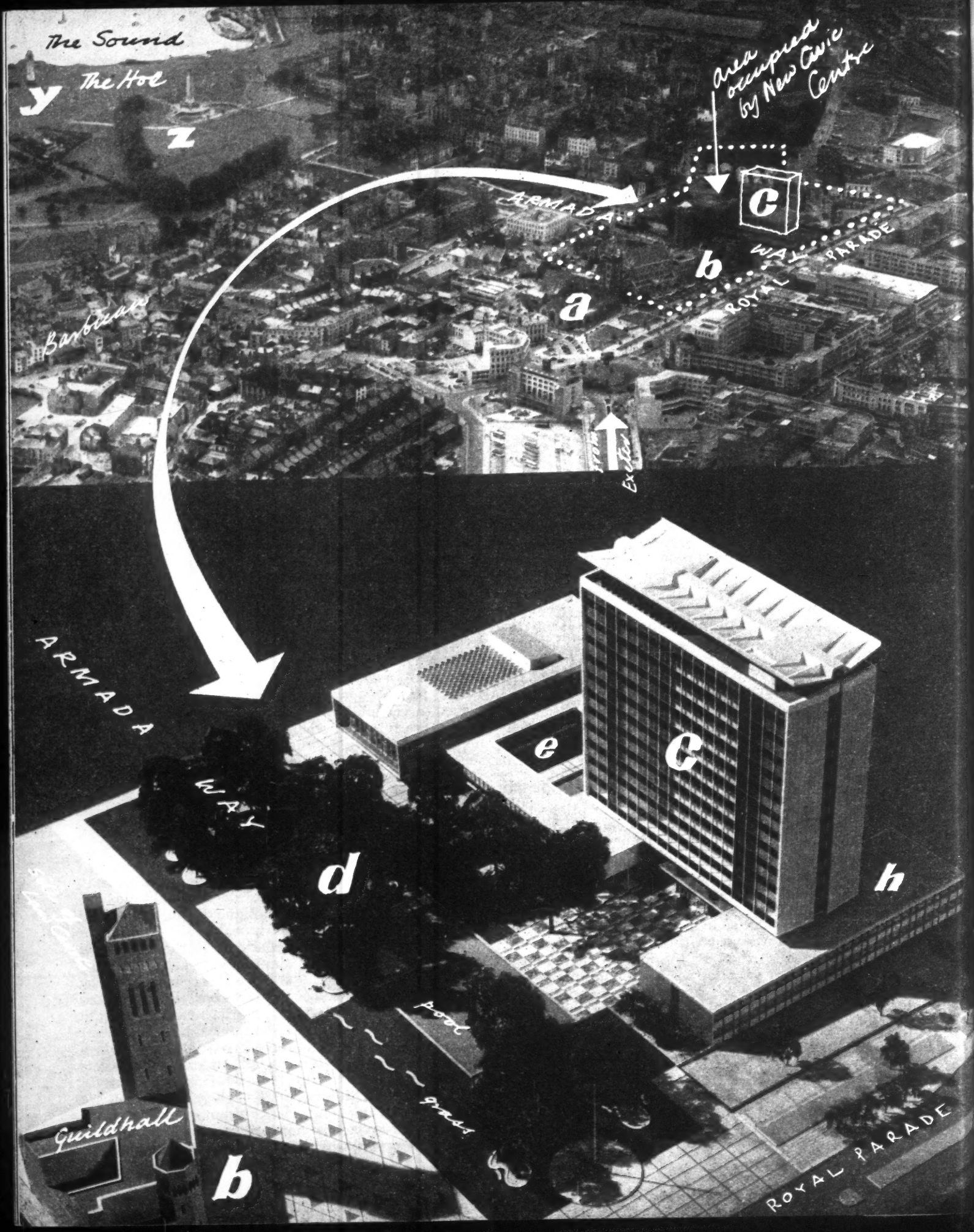


45, plan of the lecture theatre in Bardi's project for the Museum at Sao Vincente showing a revolving stage with a number of hexagonal revolving 'picture' drums.



46, in Ciceros Diaf's proposal for a picture gallery the paintings are housed on turnstiles within large drums and mechanically selected to appear on a wall before the visitor.

Both these projects are in some degree akin to the technique of the cinema and have probably been influenced by it. Both suffer from similar drawbacks. The most serious objection is, of course, that an appreciable number of paintings cannot be seen together and a constant direct, visual comparison made between them. Nevertheless, the two projects are extremely useful reminders that the form of the art gallery which we have inherited unchanged since the north wing of the Athenian Propylæa is not necessarily the only, or even the best way to view pictures.

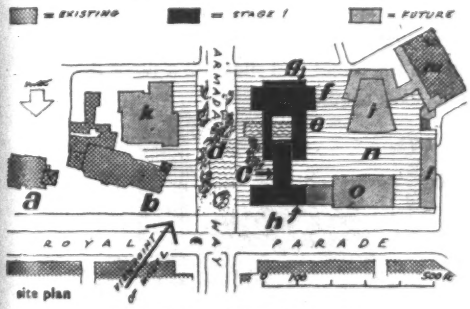

The Sound
y
The Hoe
z
Area occupied by New Civic Centre
c
ARMADA
WAY
PARADE
ROYAL
b
a
Barbican
Exeter
ARMADA
WAY
e
C
d
h
Guildhall
b
Road
ROYAL PARADE

Kenneth Browne

Plymouth Centred

Plymouth's plan for its new civic centre marks a decisive breakaway from the Beaux Arts formalism of its 1943 master plan. To its credit, the city council approved this scheme by their new city architect, H. J. W. Stirling, and it has since received international acclaim. Now stage one, designed by Jellicoe, Ballantyne and Coleridge (shown in model opposite) is taking shape and in this article Kenneth Browne assesses the value of the whole scheme as townscape.

To appreciate the visual implications of this scheme (plan below, site in air view opposite) it is necessary to know something of the lie of the land.



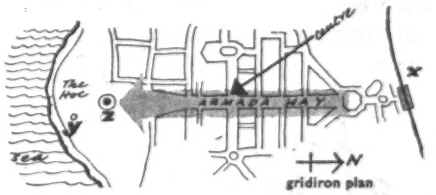
site plan

key to drawings and frontis opposite

a, St. Andrew's Church	i, concert hall
b, guildhall	k, law courts
c, 14 storey block civic offices	l, offices
d, The Great Square	m, cinema
e, town clerk	n, inner square
f, council chamber	o, city treasurer
g, Lord Mayor's Parlour	y, lighthouse
h, housing dept.	z, naval memorial

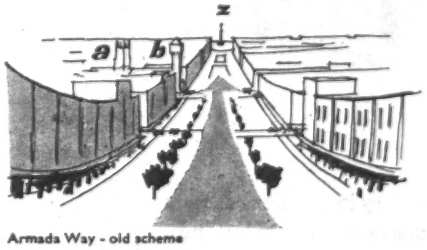
On a map, the geographical position of Plymouth looks magnificent, and judged from The Hoe it is. What the map doesn't show, is that the natural centre of the city lies in a depression. In consequence the sea, the very reason for Plymouth's existence, is out of sight. The section north-south is roughly like this with

the centre here. Standing in the middle of the city the effect is depressing. Instead of the exciting view over The Sound, half a mile away, which you might expect from your map, the ground slopes steeply up to end in sky, not sea. At the same time there is little in the centre itself to hold your attention, and your eye is led away up to the Naval Memorial, *z*, on the Hoe. The post-war gridiron plan, which replaced the blitzed jumble of old Plymouth and is like this,



gridiron plan

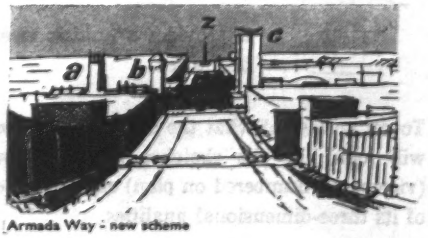
does not help. In effect it emphasizes the distances to be covered and speeds the eye out of the centre in every direction by straight corridor streets. The main feature, Armada Way (marked by arrow) is 1,000 yards long, 150 ft. wide, dead straight and



Armada Way - old scheme

ending in sky at both ends.

Something was desperately needed to pin the whole thing down, something around which the city could revolve: a focal point. The Stirling plan for a civic centre provided just that and its 14 storey office block, *c*, reinforcing the two existing towers of St. Andrew's Church, *a*, and the Guildhall, *b*, linked to them by the trees of the Great Square in between, stops the eye in just the right place.



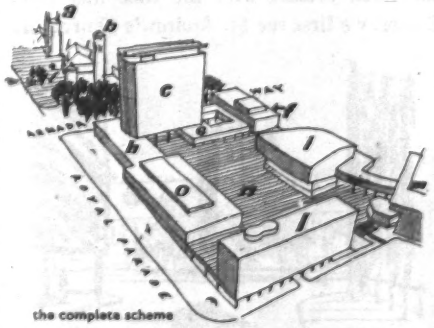
Armada Way - new scheme

The height (close on 200 ft.) of this office building is of great importance. It could perhaps be higher but certainly not lower. It states, like an exclamation mark, the importance of this as a place and it gives an uplift at the

section

lowest point just where it is needed. When the new Plymouth North Road station tower, *x*, is built there will be a visual link between the highest points; station—civic centre—naval monument.

Approaching from the station the civic centre with its shaded lawns and pools will occur at exactly the right halfway mark for visitors to stop, rest and look around before climbing up to the Hoe. The layout of the centre (sketched below) is asymmetrical and in complete contrast to the grandiose pre-war conception of civic buildings in this country, with their useless towers, massive bronze doorways, etc. The group is dominated by the tall office block, *o*, and encloses an inner square, *n*,

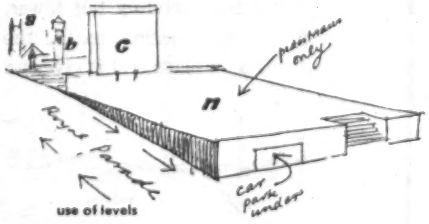


the complete scheme

(containing the concert hall, *i*) which is for pedestrians only. Though surrounded by buildings this inner square allows the eye

to escape where the buildings are raised up on columns. This space will be in pleasant contrast to the traffic-dominated streets outside. Though the axis of Armada Way is not in fact blocked, the Great Square will link across to the existing Guildhall, *b*, and St. Andrew's Church, *a* (now restored by the city architect) and also to the future law court building, *k*. The group being three dimensional in conception will provide (unlike buildings in corridor streets) infinite change of aspect to the visitor and, thanks to the absence of traffic, he will be able to move about and look at the buildings in safety.

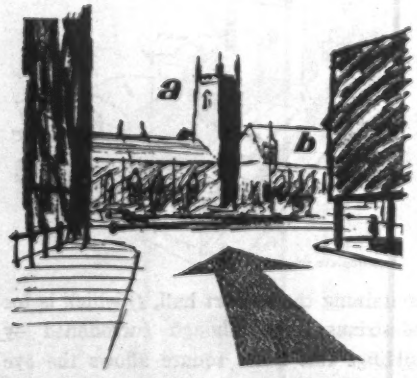
Clever use has been made of levels, for there is a fall of 18 ft. on Royal Parade. Instead of dissipating this, the designer has used it to dramatize the civic conception and present his buildings on a raised platform which is strictly pedestrian territory.



The space below is used for car parking with direct access to the buildings above.

The Great Square comes in stage one of the programme and its site has always been a natural place to rest and get your breath back between the station and the Hoe. In this scheme the pedestrian comes first, a welcome change, and the emphasis is on relaxation. Everything is done to make the square attractive by subtle use of trees, paving, water and grass. The trees drift across the square tying one side to the other and the surface pattern, using a superb local marble, reinforces this.

We have seen the value of the tall block from the North or Station approach. From the East, coming over the causeway from Exeter, we first see St. Andrew's Church, *a*,

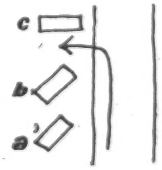


between flanking buildings

then the scene opens up revealing the Guildhall, *b*,

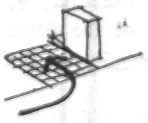
and when the office block, *c*, is built it will complete an interesting sequence of towers

and by its position, at right angles to the street, turn the eye into the square lying between *b* and *c*.

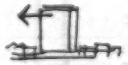


This building does the following :—

it acts as landmark to the whereabouts of the civic centre

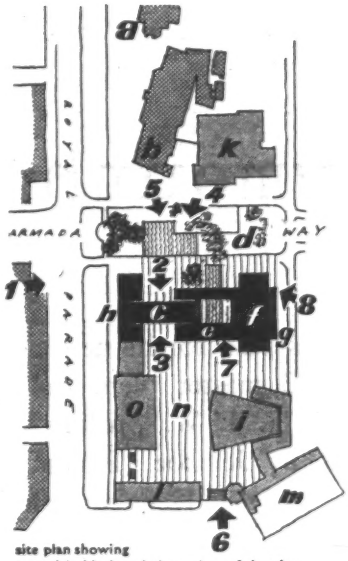


it turns the eye into the square



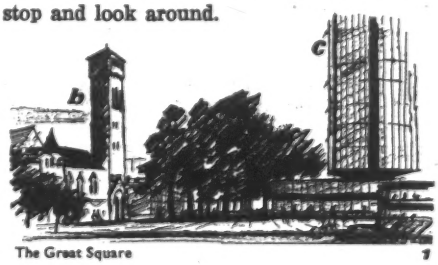
it provides a linking view of the sea.

To get an idea of what the complete scheme will look like the sketches which follow (viewpoints numbered on plan) explore some of its three-dimensional qualities.



site plan showing
stage 1 in black and viewpoints of sketches

First of all, seen from Royal Parade, *1*, fine existing trees drift across the square linking the Victorian Guildhall tower, *b*, and civic tower, *c*. This makes a welcome contrast to the street and suggests a place to stop and look around.

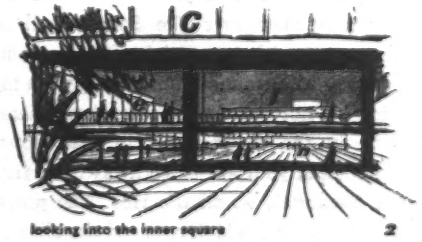


The Great Square 1

Entering the square and looking right *2*, the visitor will see through the glazed entrance hall of the high block, *c*, into the paved inner square, *n*, beyond. A hide and seek glimpse of buildings, partly screened, which will tempt him to explore further to see what goes on.

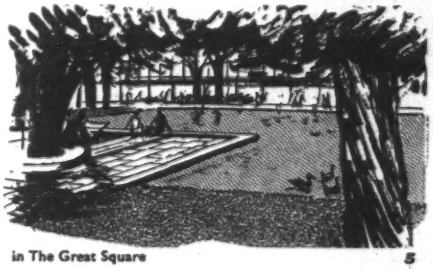
Having penetrated under block, *c*, and looking back, *3*, he will see St. Andrews and the Guildhall framed in a slit view, the buildings part hidden by trees. The patterned paving which passes unchecked through the entrance hall emphasizes continuity of vision between the outer and inner squares.

Back in the Great Square, *4*, there is a welcome chance to rest on the seats which ring the trees. This is a good spot to relax



looking into the inner square 2

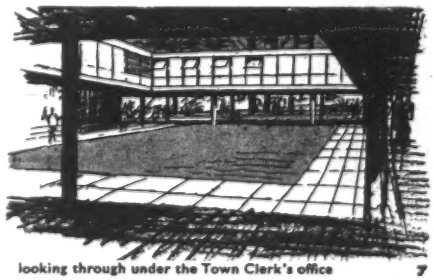
in the shade and enjoy the surroundings with the weight off your feet. Large stretches of grass and water add attraction, while the buildings are part hidden by the foliage. There are no loose seats to clutter the scene. You can sit under the trees, on the stone edge of the pools, *5*, or just lie on the grass.



in The Great Square 5

Approaching from the other end of the site, *6*, an exciting panorama of buildings unfolds as you climb the steps to the level of the inner square. This is where the intelligent use of levels comes in. From the street, with its entrance, *p*, to the underground car park, you cannot see into the square and this creates just the right feeling of suspense.

Crossing the inner square you can look through under the Town Clerk's offices, *7* (part of stage one) which are raised up

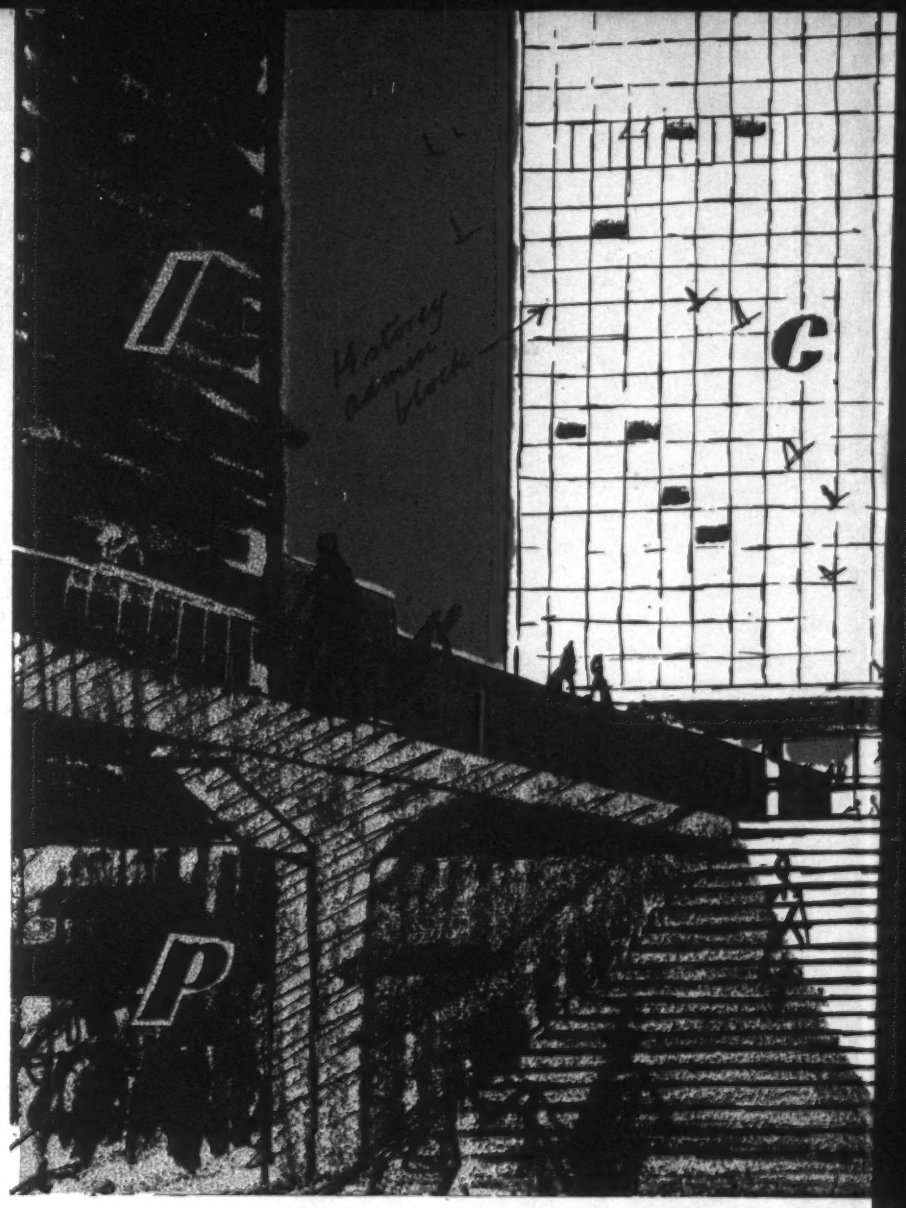


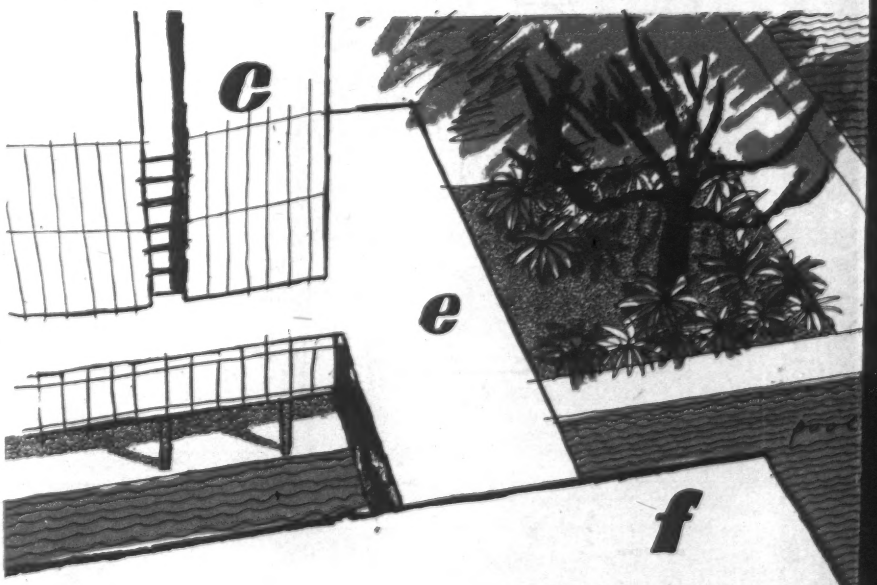
looking through under the Town Clerk's office 7

to form a colonnade. This is a top-lit, slit view with the pool carrying your eye on to the trees of the Great Square beyond.

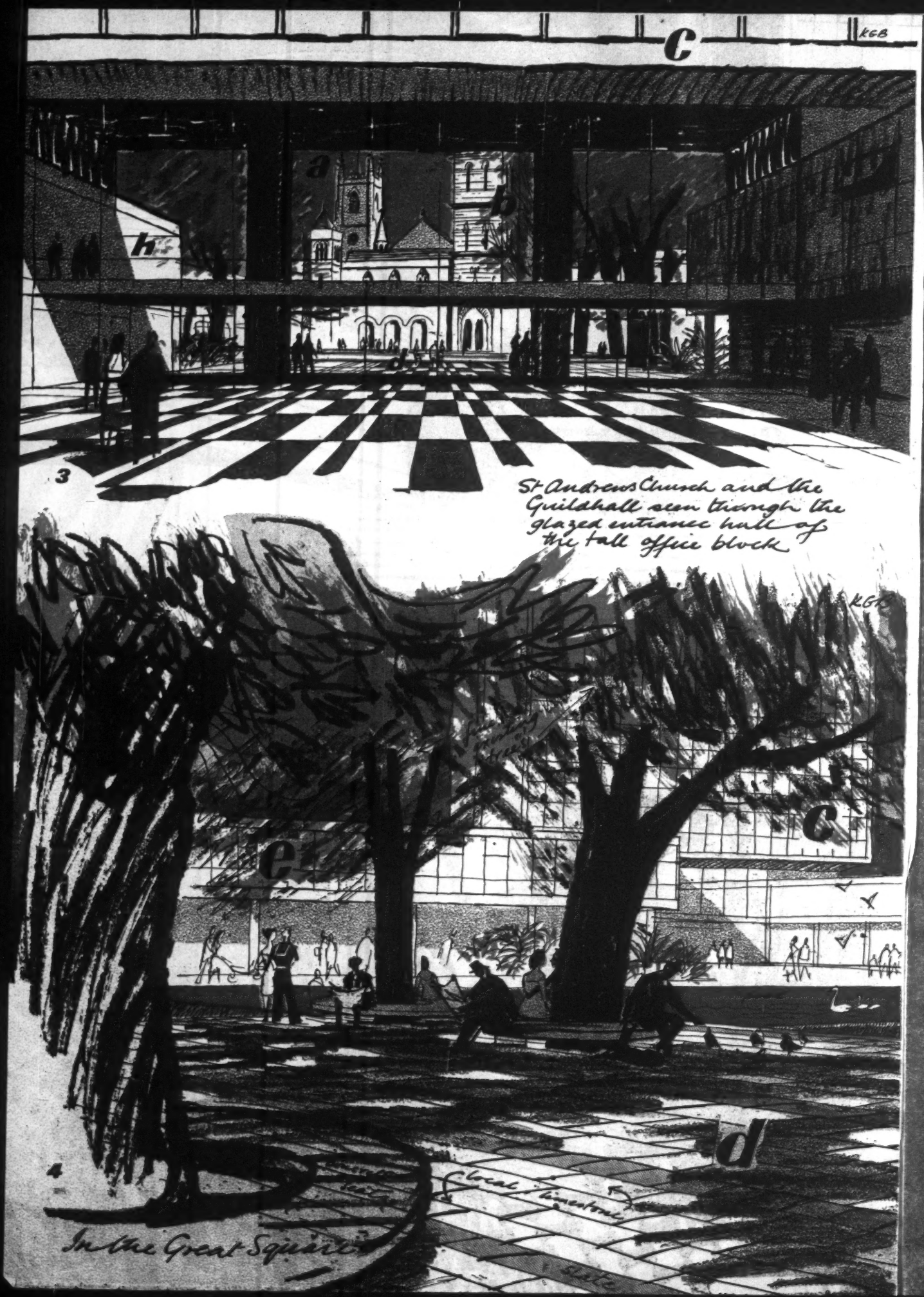
Sketch *8*, shows the informal way in which the architects have treated the surface of the main square. There is an interesting contrast of hard (paved) and soft (grass) surfaces interlocking and the trees penetrate apparently at random.

The route which the Lord Mayor's procession will take from the Council Chamber, *f*, to the Guildhall, *b*, is no formal way but a casual winding route across the varying patterns of paving and in between the trees. When completed Plymouth civic centre could be the finest in the country and add enormously to the prestige of that city, something worth going a long way to see. However, it is a bold plan which demands a bold execution; an entity which will permit of no half-hearted whittling away. It's all or nothing.



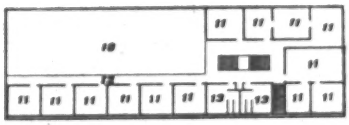


The Lord Mayor's
leaving the Council House and cr
The Great Square on its way to the Gu


C
KGB
a
b
h
3
St Andrews Church and the Guildhall seen through the glazed entrance hall of the tall office block
KGB
c
e
d
4
In the Great Square

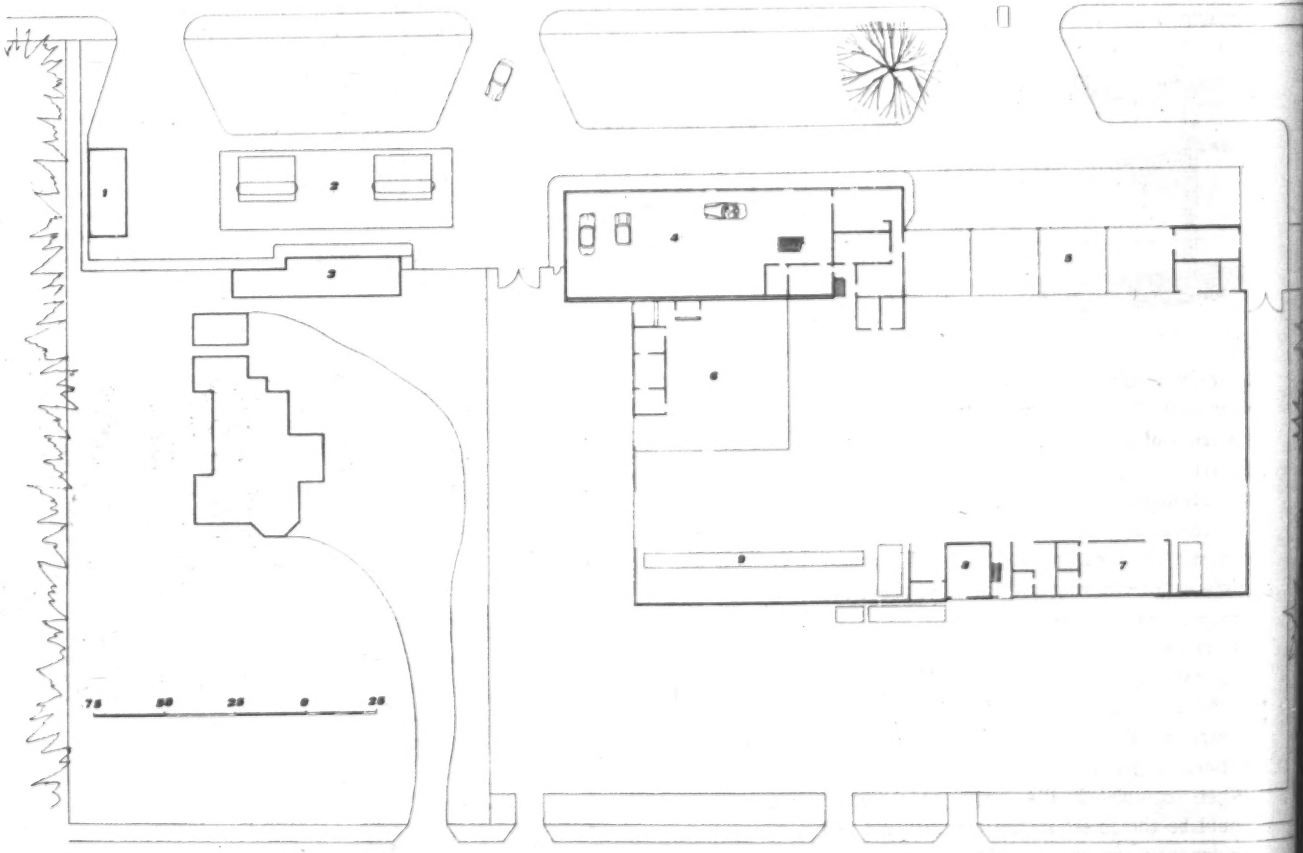
GARAGE AT POOLE

key
1. petrol storage tanks
2. pump island
3. filling station
4. showroom
5. lubrication and washing bays
6. workshop
7. engine shop
8. boiler house
9. pits
10. upper showroom
11. office
12. balcony
13. cloakroom

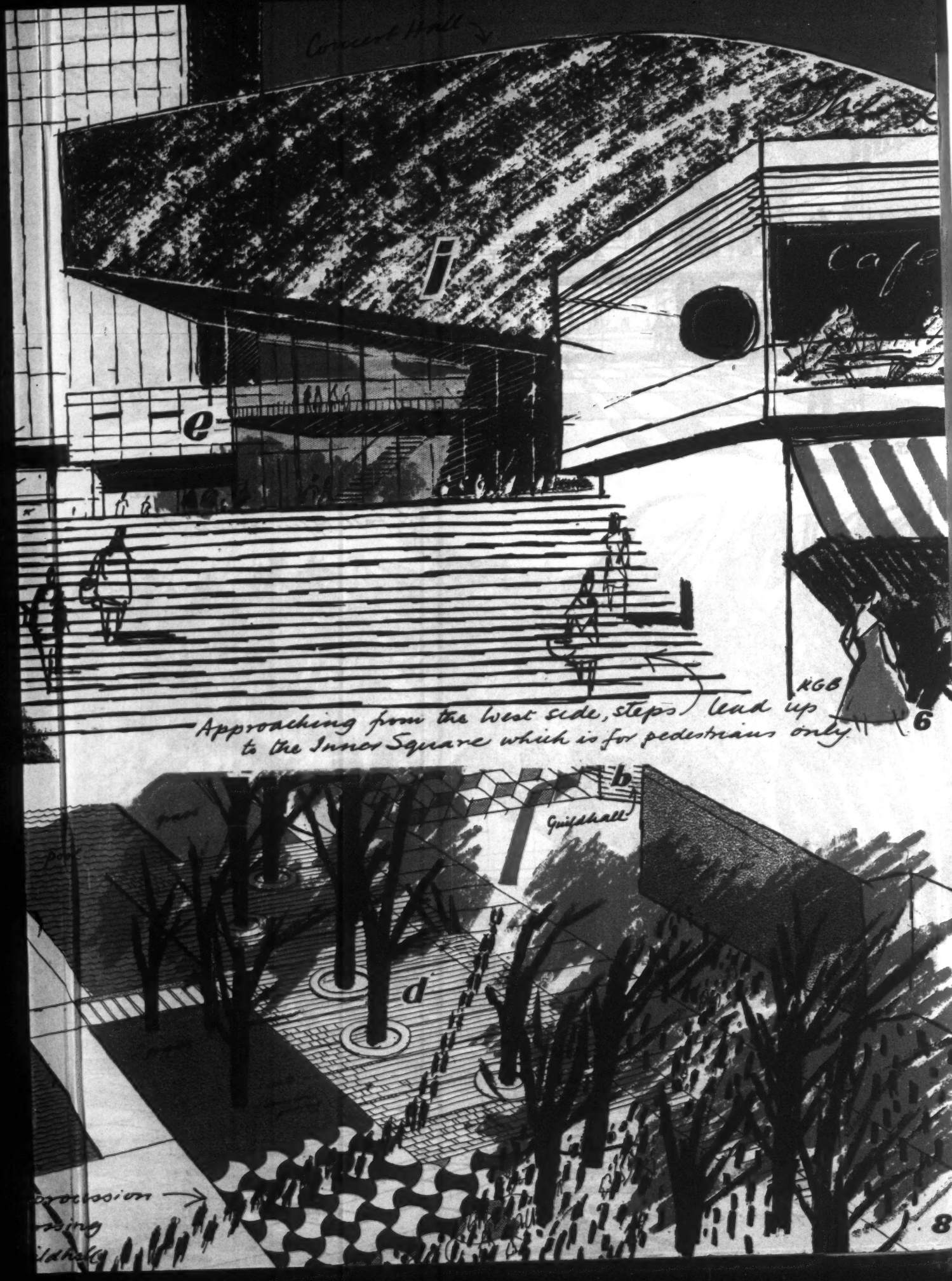


first floor

N



ground floor


Concert Hall
Market
Cafe
i
e
RGB
6
Approaching from the west side, steps lead up to the Inner Square which is for pedestrians only
b
Guildhall
d
8

GARAGE AT POOLE

ARCHITECTS | **FARMER AND DARK**
partner-in-charge | **E. M. C. Butcher**

1, the showrooms from the road.

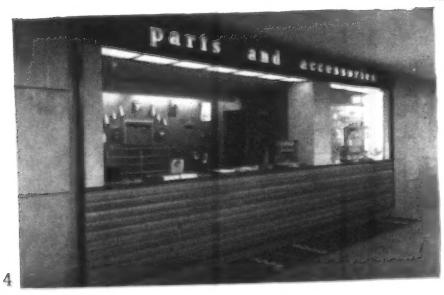
The site in Poole Road was occupied by three large Victorian houses, one of which still stands but will be demolished later to make way for the next phase. The basic requirements were for a showroom, offices, lubrication and washing bays, a maintenance area and a petrol filling station. The canopies over the petrol pumps are built up from glued plywood strips, in two layers, forming a self-supporting stressed skin. The sales room, with a tile mural of a model T Ford, will eventually be pulled down to make way for an extension to the showroom and offices.

The main part of the showroom is two storeys high and fully glazed on the north and west sides. The black terrazzo staircase leads to the offices which open off a gallery on the south side of the building, with the sales counter beneath. Natural wood, parana pine, oak and

2

2. the pump island with its cantilevered plywood canopy.
3. the interior of the showroom, with the office balcony on the left. The floor is of oak, specially treated to withstand oil and tyre marks.
4. the retail counter has direct communication with the stores behind

3



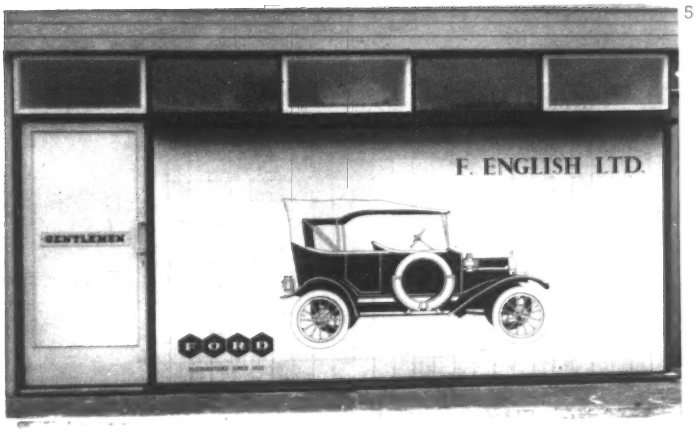
4

western red cedar, treated with a matt varnish, is used to contrast with the painted surfaces. Each rooflight contains eight fluorescent tubes behind opal perspex, with recessed spotlights to give sparkle. Heating is by warm air convectors, radiators and a continuous heating coil below the large windows. There are also anti-condensation pipes running through the rooflights

The four lubrication bays and two washing bays have quarry tile floors and full height, aluminium-framed glazed folding doors. Waste sump oil is automatically pumped to a tank behind the building where it is used as boiler fuel. The maintenance shop has a height of 15 ft. 6 in. to the underside of the steelwork, which allows for overhead services and two storeys of small workshops and cloakrooms. The main lattice roof trusses are placed above the level of the roof and support the glazed roof lights. The roof is of insulated galvanized steel decking, covered with bituminous felt. All external

GARAGE AT POOLE

5



walls are clad with vertical patent glazing, capped by a fascia of ribbed aluminium sheet above an 8 ft. high plinth wall of buff and sand lime brickwork. At each end are 18 ft. wide sliding-folding doors. The stores occupy two bays at the back of the showroom and are of patent slotted angle.

All rainwater pipes are mounted internally on the centre row of stanchions. In the maintenance area all steelwork is painted light blue, with walls of natural brickwork treated with a clear glaze. Externally the exposed structure is light stone colour, all opening window frames are light blue and all fixed windows dark blue/grey.

5, a tiled mural of a model T Ford designed by L. C. Case forms one wall of the sales room behind the pumps. 6, at the rear of the building an 8 ft. high plinth wall of buff sand lime bricks is topped by vertical patent glazing, with a fascia of ribbed aluminium sheet.

6


SABENA
IGIO PACE VICTORIA

Nicolete Gray

THE MODERN MOVEMENT

The contrast between the skyline lettering of a recent building in Rotterdam, opposite top  *and the inscription in the arcade frieze of the Palazzo Ducale at Urbino, below, underlines the emergence of a new relationship between building and lettering. In both cases the forms of letters are appropriate to the forms of other decorative elements in the architecture but, as Mrs. Gray points out in the article below, in many modern buildings the lettering is not merely decorative, but functionally necessary, thus necessitating a new attitude on the part of the architect.*

We have in previous articles surveyed many different sorts of lettering, different types and different ideas and uses, but the problem which arose in the very beginning still remains to be answered; which of the traditional styles of lettering are best adapted to the modern style in architecture or does it demand a new or exclusive letter of its own?

The relation between lettering and building is new today. In the past it has been an extra, something deliberately chosen and added by the architect or client, because they wanted it for some reason of their own. Today for many types of building it is a necessity and this change seems to work both ways. Sometimes and for some sorts of work, for instance for shop fronts, it is more considered, planned from the start as one of the conditions given. But more often, particularly in large buildings, it would seem to be ignored and treated as an unimportant detail, a fitting that is added at the end. It still has no recognized,traditional place and treatment in the vernacular of modern architecture, as it had, of course, in the far more uniform scheme of classical building, where it had its place on the architrave, under the pediment. The Renaissance added the practice of placing the inscription above the courtyard colonnade, as in the Palazzo Ducale at Urbino. Finally, there is the inscription inside, round the dome, as at Anet or St. Eligio-degli Orefici in Rome. What are, or what should be the modern counterparts?

The first quarter of the nineteenth century saw the invention in England of a completely new sort of typography, new in function, in idea, and in its component letters. In some ways the play bill, with its arrangements of great heavy patterns and reintroduction of decorated letter design is nearer to the medieval manuscript than anything intervening. It also reintroduces the three-dimensional element, used, for instance, by the Carolingians (AR Aug., 1956) with its shaded and its perspective letters, 1. As we have seen in previous articles the typographical innovations were paralleled, if not preceded, by architectural letters of the same design; heavy if not true fat-face Romans, Egyptians, Tuscans, and rather later, sans-serif. The early nineteenth century printer made up his material into wonderful pictorial abstract designs, the builder and engineer incorporated his into the sub-classical domestic vernacular and the early functional architectural terms of the time. We have already shown how the new designs grew out of, or were adapted to the new and the greatly increased variety of materials coming into use. To recall the sort of letter which was being invented we reproduce a magnificent cast iron Tuscan, still to be seen in Covent Garden, 2. The extent to which lettering might be felt to be part of the new movement of expansion and discovery is demonstrated in the cast-iron bridge at Bettws-y-Coed by Telford, in the year of Waterloo, 3. 4 shows a later example, using a sans letter of the same idea, this time on the Abermule bridge over the Severn built in 1852. Most of this lettering is as anonymous as the contemporary type design and composition, and the building which it decorates. It is typical, however, of the cultural unity that still survived, if precariously, that the lettering on Nash and Smirke buildings (as at Chester Terrace and Adelaide Place, Charing Cross, AR April, 1957 and June, 1954) are of the same school as the commercial letters.

Good architectural lettering seems to have lasted longer than good popular typography. The developments we have been considering were all pre-Victorian. You see plenty of good letters well applied to early Victorian buildings, whereas though a multitude of fascinating type-faces were invented it seems that they were too much for the Victorian compositor. After about 1840 he seems to lose command of his material, to choose his type solely on the basis of whether it would fit the copy into the line, combined with the principle of using as many different founts together as possible. The results are often enchanting as type-specimens, but no longer designs in their own right. In the late 'seventies, however, a second revolution took place, and *artistic* printing and lettering begins to appear, 5. Again it seems to be a movement which was commercial and anonymous in origin. It is easier, at least in the present while the architectural material is unstudied and uncollected, to follow its development in printing, though

1, *Victorian theatre bill.*
2, *cast and painted metal letters, Covent Garden.*
3, *detail of the Waterloo Bridge, Bettws-y-Coed*, 1815.

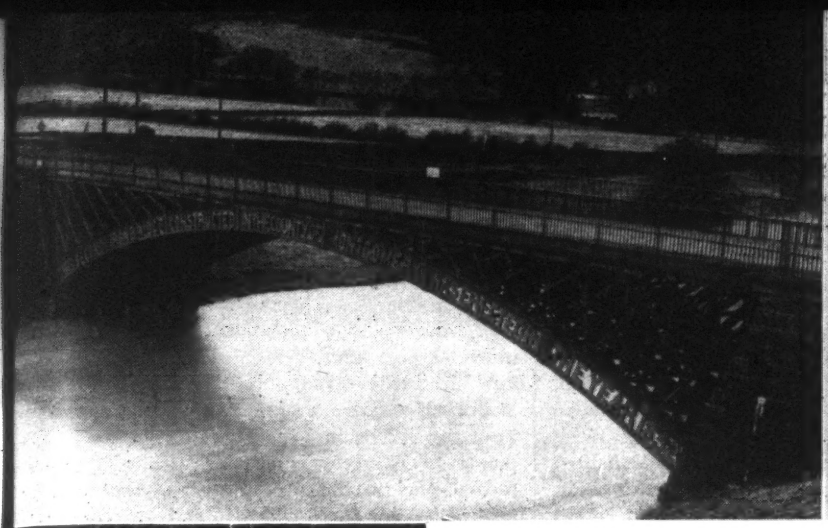
the two spheres must have been closely parallel, if not intimately connected. In printing the revolution was greatly influenced by the introduction of the platen press, which made possible the printing of elaborate jobbing work in colour, also by the great prosperity and comparatively low wages of the period which made it feasible for a compositor to spend whole days on the setting of an invitation card or letter head. This time the first centres were in the United States, Harpel's *Typograph or book of Specimens*, published in Cincinnati in 1870 is a landmark. W. J. Kelly, editor of the *American Model Printer*, was a pioneer. It became very popular in Germany, and in England, through the Printers International Specimen Exchange organized in 1880, by which printers exchanged the requisite number of copies of their own design and received in exchange specimens of those of all the other printers. The volumes which contain these exchanges, which continued until 1898, show a very remarkable and sophisticated international school of design. The interesting features are the incorporation of a semi-abstract type of ornament, made up of combinations of rules, and units of typographical ornament, into a design of lettering; the fact that the principles of this design were asymmetrical; the creation of surface textures at various levels in relation to the surface of the page, making a design in three-dimensions; and, finally, the use of a repertory of type-faces which are neither Roman nor Gothic but free and fluid in form. The sources of this repertory were provided by enthusiastic scholarship which searched manuscripts, brasses and tombs and reproduced almost every variety of alphabet discovered there, in books ranging from the impressive publications of Henry Shaw and Noel Humphries to cheap paper covered alphabet books. The commercial type designers of the period had the advantage that not being scholars they departed freely from their models without inhibitions, and produced a series of designs of which the motives are almost always expressionist. In doing so they freed letter design, for the moment at least, from the exclusive dominance of the square Roman.

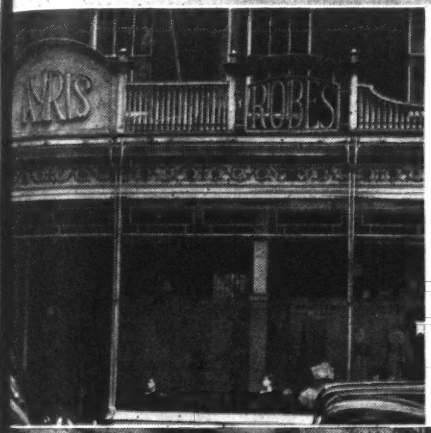
The architectural counterparts of 'artistic' printing are to be seen in most cities, sophisticated combinations of free, almost always compressed, letter forms in terracotta, in mosaic, combined with ironwork, or less often applied. 6, gilt wood letters from a shop front in Cheltenham is typical, particularly in the way in which the lettering is integrated with the balcony and in proportion to the windows. The architectural letter was, of course, at a disadvantage in not being free, but being a component part of an art which was almost in dissolution.

At this point the history of lettering joins up again with that of the modern movement. The connection between 'artistic' lettering and *art noveau* is obvious if indirect. In the 'nineties this free tradition was taken over by the conscious, educated artists. In the graphic arts there is a mass of material in books, posters and in the aesthetic magazines which proliferated; the interest in lettering is unparalleled since the Renaissance. It differs from 'artistic' printing in many ways. Gone are the banal printers ornaments of cranes and Japanese fans and parasols, but not the Japanese influence. It is all simpler and the lines now have rhythm and life; but the free compressed letter-forms used belong to the same pre-Renaissance idea, and they are now incorporated into pictorial patterns even more directly. The focus seems to be the school of Rudolf von Larisch in Vienna. Larisch published his book *Uber Zierschriften im Dienste der Kunst* in 1899, and in 1902 he was appointed to the Kunstgewerbeschule, the same year that Johnston was appointed to the Royal College of Art in London. Their methods and results were, however, quite different. Both revived and studied the calligraphy of the past, but Larisch was much more interested in the unity of the piece than in the type of letter, 7. He wrote 'in this field norms have done more harm than good.' He made his pupils experiment in all sorts of materials, wood, leather, glass, metal, ceramics, textiles, adapting the letter forms to the tool and the material. Most interesting are the first of a series of portfolios of specimen lettering which he produced between 1900 and 1926. They are interesting partly as very illuminating exercises in his doctrine that it was the rhythm between the letters rather than individual forms which needed to be studied, that the space around was as positive as the shapes superimposed. Secondly, they are interesting for the names of those who contributed, some of the most alive people in Europe and many of those who were in particular working for the integration of art and the machine, and laying the foundations of the modern style in architecture. The names include Mackintosh, Ashbee, Walter Crane, William Nicholson, Grasset, Valloton, Berlage, Wagner, Behrens, as well as Ehmcke, Hupp, Weiss and Koch. The examples are very varied, some clearly anticipate neoplastic and constructivist elements in the abstract movement of a decade later; this portfolio, 8, was published in 1902.

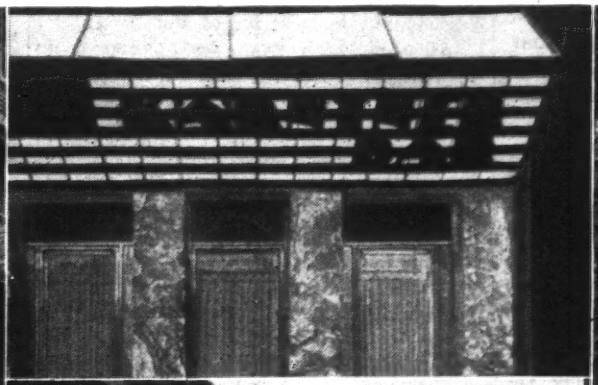
Contemporary architecture also reflected the integration of the arts, which was one of the great contributions of this period, and the vitality of its lettering. 9 is an example of the lettering of the Viennese architect Wagner. 10 shows a design by Loos, very clearly related to the Larisch experiments, though most of the lettering on his other shop fronts is not so interesting. The tradition continues in the work of Behrens, who was himself a type-designer of distinction.

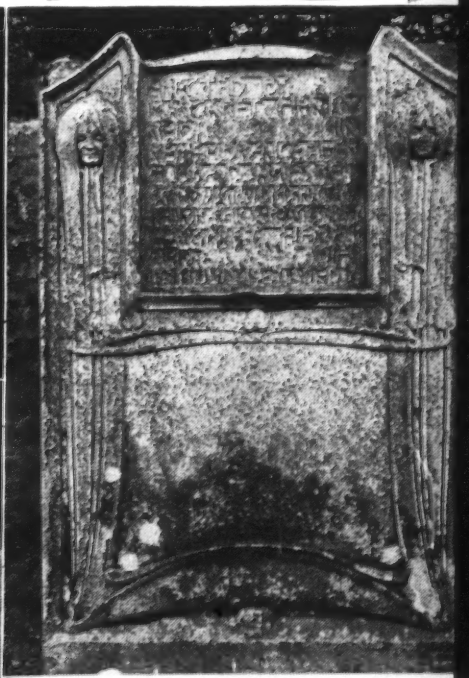
One might have hoped for similar developments in England. The ground seemed all prepared. Lewis Day's *Lettering as Ornament*, published in 1902, provided what is still easily the most stimulating collection of examples of historic lettering. Minor works such as the Boulting building (AR, April, 1959) are promising, and the commercial tradition must have been still alive up to 1914. In Scotland all Mackintosh's lettering is interesting, 11. What lacked, after his failure, was the architectural experiment. The most interesting example that I know in this tradition is Hay's Wharf, built in 1930 by Goodhart Rendell. Here the lettering is still both free,

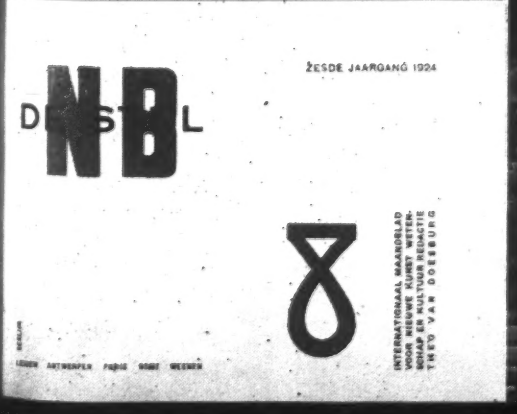




QUADRATUR SCHUBERT FAY
PULVERDAMPF KASTENGEIST
ZEIT TODTENKLAGE BAJAZZO
VORWÄRTS GÖTZENKULTUS
BOLERO GALILÄA POSSE MAX







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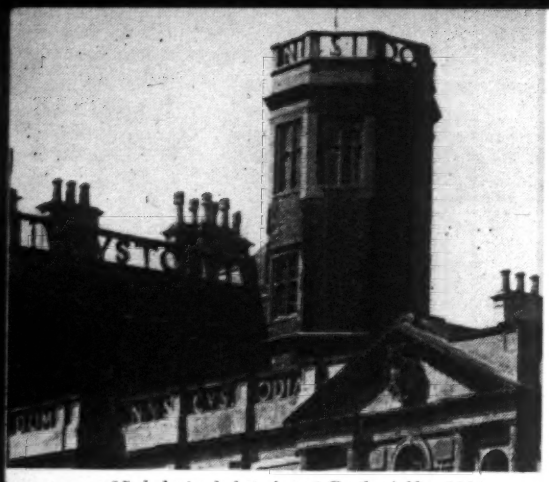
6	7	8
9	10	11
12	14	
13		

4, *Abermule Bridge over the Severn*, 1832.
5, *American 'artistic' printing*, 1880.
6, *shop front, Cheltenham, c.* 1914.
7, *exercises in lettering design by vom Larisch and*
8, *by Mackintosh.*
9, *lettering on building by Wagner, Vienna*, 1905.
10, *shopfront by Loos, Vienna*, 1907.
11, *tombstone by Mackintosh*, 1907.
12, *wood letters on Hay's Wharf*, 1930.
13, *cover of De Stijl magazine*, 1924.
14, *design by Oud, Rotterdam*, 1925.



15, *balustrade lettering at Castle Ashby*, 1624.

and integrated with the building; the style is the same for both elevations, but the proportions are notably adapted, 12.

The next phase of the modern movement was also vitally interested in lettering, as the typography of its magazines demonstrates, one only needs to recall the Futurist Manifesto, De Stijl, or Tschichold's exposition in *Die Neue Typographie*, 13. There was a definite recession in formal interest. The free letter of the beginning of the century was rejected, chiefly because of its ornamental tendency, also, perhaps, because it was compressed, whereas the whole tendency of the twenties was towards square forms. They consequently took the square sans serif, as a functional symbol, though one notes that in Tschichold the theory is at least as expressionist as it is functional, since the object is to make a 'sight poem,' to evolve a typographical structure in which the meaning of each word of the text shall find a formal expression. In one direction this tendency led away from possible architectural application to Dada typography. In its formal experiments in the building up of asymmetrical designs out of the geometric shapes of sans serif letters this movement produced a new style in the history of architectural lettering. The De Unie café of Oud, 14, built in 1925, is a very successful example. One notes that it is fundamentally two-dimensional in design, like a page, and that the brutal, unengaged nineteenth century sans is preferred to anything approaching Johnston's scholarly design, with its completely worked out proportions. The preoccupation is with suiting the letter to the architectural forms, not with the perfecting of letter forms. The 'twenties went further, however, and discovered an integral place for the letter in the new architecture, on the sky-line. It was not a new invention, as we have seen it is a feature of Jacobean country houses—we reproduce the finest of all the English examples, Castle Ashby, 15, dated 1624, as a reminder—but it seems likely that it may be epoch-making in the history of townscape as well as of architectural lettering. 18 reproduces a drawing by the Russian architect G. Barchin of 1925; the project was never built, but it must with 16, a factory designed by Perret 1920–1* be one of the earliest twentieth century examples. Today the idea is being used extensively in Holland and Germany, 17 and frontis. With modern methods of illumination it is even more exciting.

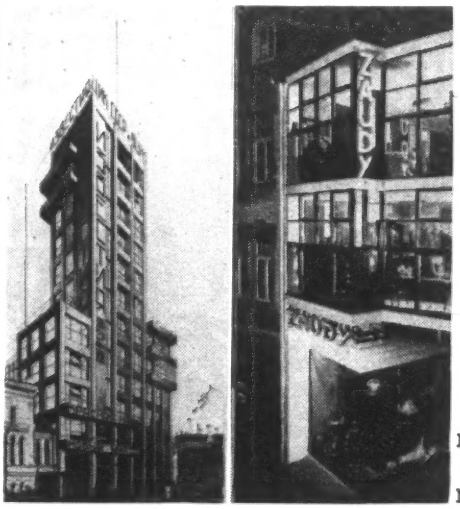
Nearer the eye level the felicitous place for the letter seems yet to be discovered. It needs perhaps a more three-dimensional approach to the problem than is common. 19 suggests such an approach; seen also occasionally in more recent shop fronts.

All these later examples have used a sans letter. Is this the only suitable form, or can we not use some of the other inventions of earlier phases of the modern movement? The stage which architecture has reached today is not one that can be covered by a single theory; the modern style seems to be developing in many directions and moods. It certainly includes a classical tendency, in the sense of a seeking for perfect proportions, and this seems to call for a classical letter in the same sense. This is not to suggest a return to the Roman letter, whose primary characteristic, the bracketed serif, belongs to the chisel or pen-made letter and has little meaning apart from these tools. Though its other characteristic, the graduated line, is an invention by which the letter can be adapted in proportion and feeling to the building of which it is part; avoiding the uncompromising geometrical attributes of the even-line sans serif, and opening possibilities of a far more elegant and versatile norm than any hitherto evolved.

But all modern architecture is not so pure in intention; there seems to be plenty of room for a greater variety of formal play in the wide gamut of letter shapes which are current and which offer, indeed, the chief decorative means of enlivening shop and street in a contemporary idiom—more particularly by night. The Egyptian face is full of potentialities, though we do not yet seem to have found any satisfactory standard relation between the letter and its background, to replace the Victorian relation which was based on the continuity of letter and wall, and the consistency of letter and architectural detail. Today both these conditions have disappeared. Finally, modern architecture also envisages arbitrary forms and expressionist purposes, for which, perhaps, it may well need to regain the formal freedom which was attained at the end of the last century, which reached after all a far higher level than the graffiti of Le Corbusier at Ronchamp.

But new forms are creations, of their nature unexpected, though needing perhaps a large background of trial and error and experiment: that the last few years have certainly provided. The sterile uniform Trajan imitation is dying and lettering is beginning to regain its integral place in the modern movement.

* I am indebted to Professor H. R. Hitchcock for telling me of this example.



18

19

18, *project for Iswjestia building, Moscow, design by G. Barchin*, 1925.
19, *shop in Wesel with lettering on two planes. G. Rietveld.*

16, *possibly the earliest modern balustrade lettering. Perret factory at Montatoire*, 1919–20.
17, *recent example in Rotterdam.*

the exploring eye

What Western eyes admire in Japanese historical architecture is the detailing, and the ingenuities of the plan with its consequent subtleties of spatial relationships. At a time when sections of buildings are not much discussed, the sections of Japanese buildings are not discussed at all. But vertical movement from floor to floor, or other changes of level, have never been much considered in Japanese architecture and, in consequence, staircases are not features of any importance.

According to tradition, the creation of the Sazae-Do *at Wakamatsu is due to two men—a carpenter of the Yamashigi family, who built it, and the monk Ikudo of the Jissō-ji temple in Wakamatsu, who conceived it. This portrait statue of Ikudo on his elegant chair was displayed in the* Sazae-Do, *but the carpenter's only memorial was the tradition honouring his family name.*

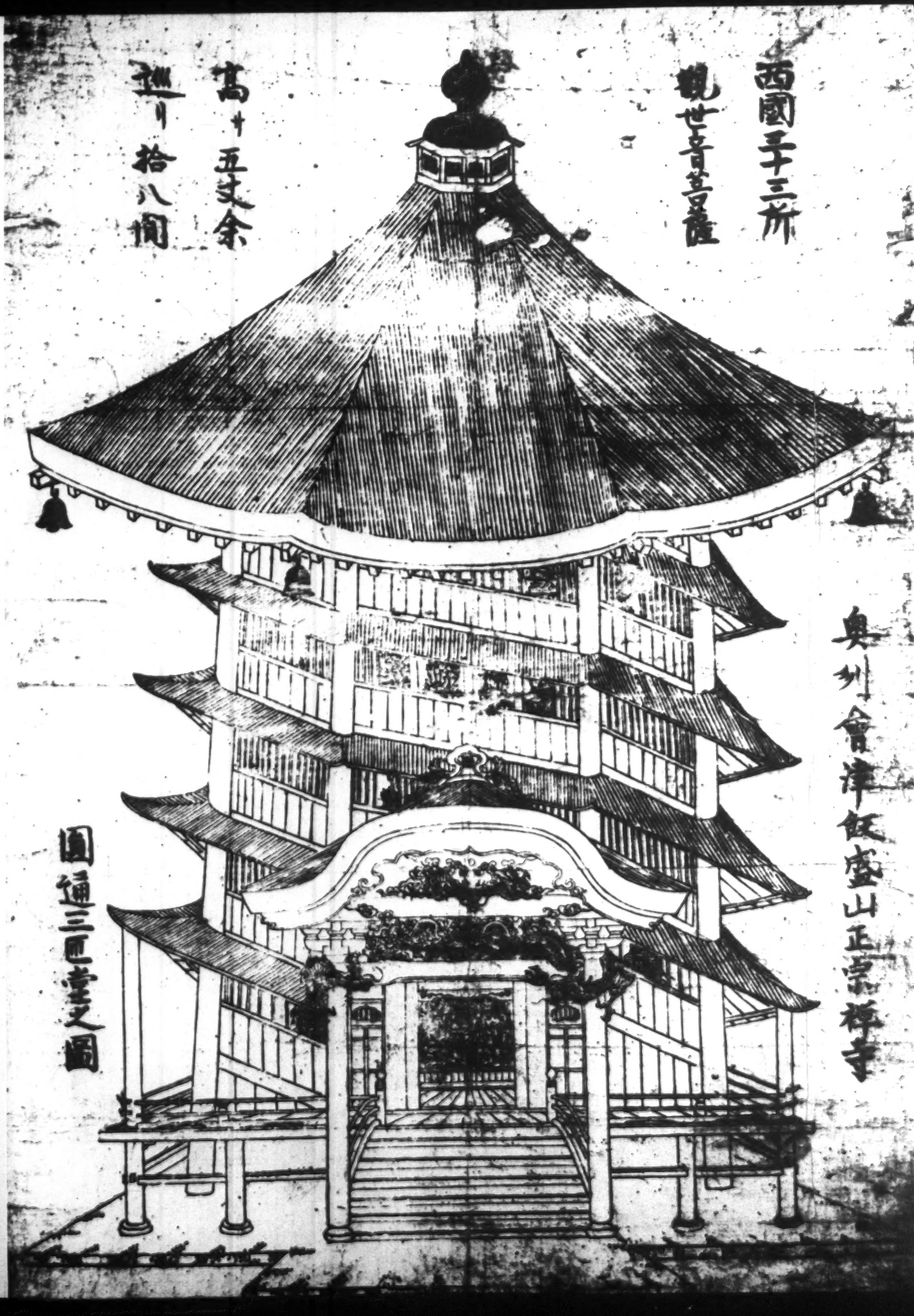
For these reasons, the subject of the photographs on these pages is of unique interest in the history of Japanese architecture, since it appears to be the sole survivor of a never-very-numerous group of late eighteenth-century structures whose entire existence depended on the idea of a spiral ramp. The *Entsā-Sansōdō* or *Sazae-Dō* in Wakamatsu, a city in the Prefecture of Fukushima, can be compared functionally to the *Sacri Monti* of Italy—it was a pilgrimage centre, and within it a processional route took the pilgrim past thirty-three statues representing the *Kannon* or sacred places of the Buddha, and to have visited the *Sazae-Dō* was taken to be equivalent to having made a pilgrimage to the thirty-three sacred places. But whereas the *Sacri Monti* are a unique landscape conception, the *Sazae-Dō* is a unique architectural conception, a two-start spiral ramp making two complete turns around a central core, one spiral for ascending, the other for descending, connected by a bridge at the top. Each ramp is invisible from the other, but the footsteps of persons moving in the other direction are heard overhead.

Multi-start spirals, whether ramped or stepped, are a rarity in world architecture—most of them are in the note-books of Leonardo da Vinci—but in Japan the only parallel appears to have been an earlier *Sazae-Dō* at Edo (now Tokyo). The Edo version, completed some time before 1786, appears to have been the inspiration of the Wakamatsu structure, since both were called *Sazae-Dō*, which means literally, 'top shell hall,' implying a smooth spiral, rather than a system of steps.

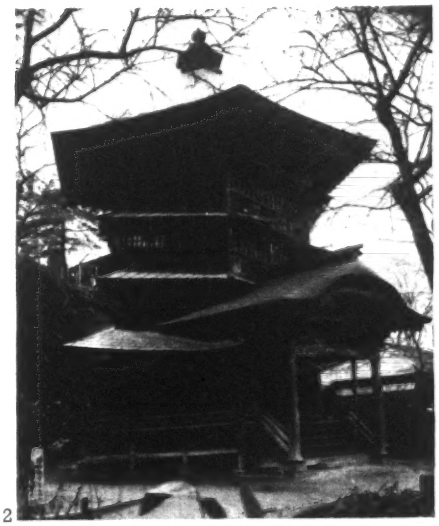
At all events, the completion of the Wakamatsu tower in 1796, so soon after its forerunner in Edo, suggests that the idea of spiral ramps must have had a validity in Japanese ideas at that time that it has lost since. In spite of its practicality, and the influential standing of the Zen Buddhist sect that sponsored it, there have been no attempts to revive the idea, even for the purpose that it serves so well.

BUNJI KOBAYASHI

Since this was written, Yūzo Nakamura has advised me that the sculptor Ko-un Takamura (1852-1934) wrote of the double ramp of the Sazae-Do at Edo in his memoirs (Ko-un Kaikodan) which appeared in Tokyo in 1929. Apparently the Edo tower stood until at least 1808, but it is not known how soon after that it was pulled down.


西國三十三所
觀世音菩薩
高十五丈余
廻り拾八間
奥州會津飯盛山正宗禅寺
圓通三匝堂之圖

1



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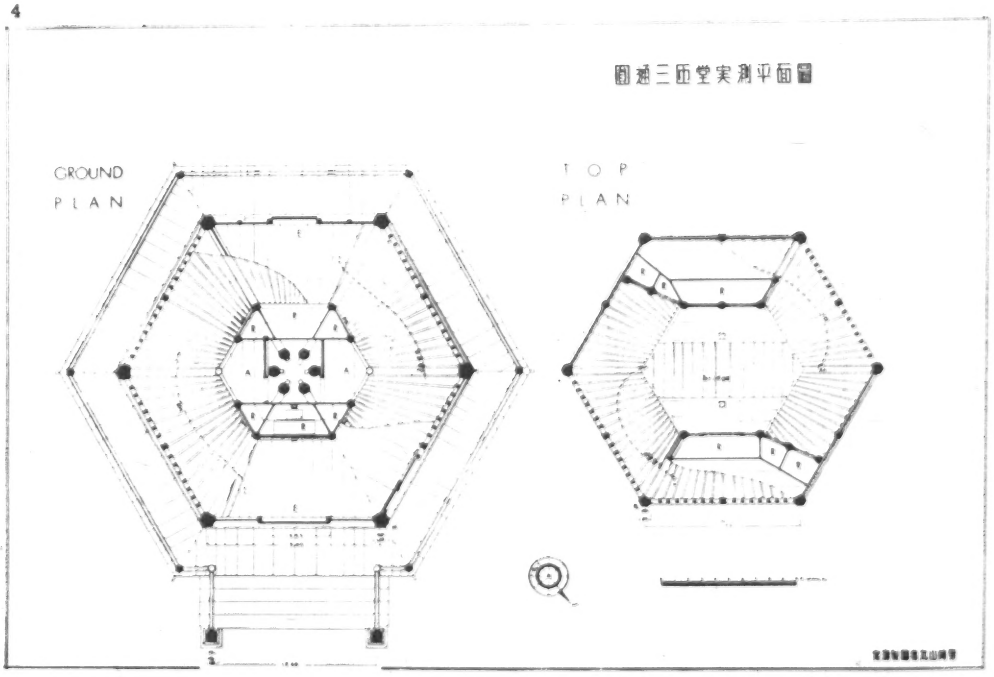
1, a print in the possession of the Yamashigi family, one of whose members was the master carpenter for the tower, records its original appearance—an all-wood structure 51 feet high, 13 feet to a side, with its walls battering in toward the top. Comparison with ***3*** shows how little it has been altered.

2 and ***3,*** front and rear views of the Sazae-Dō at Wakamatsu. The rather casual mating of the porch and the spiral roof suggests the unfamiliarity of this type of architectural conception to Japanese designers of the time. On the other hand, the neat and workmanlike management of the horizontal and inclined structural members, the roofs and the window-grilles, as they appear in the rear view, suggest that once the spiral was established, then the design was under control.

4, Professor Kobayashi's measured drawings show the hexagonal plan of the Sazae-Dō, the cluster of six wooden posts that accept the inner end of the beams supporting the ramps, the two ramps themselves and the bridge that connects them at the top. Marked with *R* are the recesses to hold the Kannon figures that were the object of the pilgrimage to the tower.

5, 6, 7 and ***8*** (reading upwards), the upward ramp, rising from the front entrance (the descending ramp finishes at the rear door) up to the roof, plastered with paper seals, ***8,*** put there by generations of pilgrims. In ***6*** two of the central structural posts can be seen, and also the narrow connecting way to the descending ramp. People living in Wakamatsu remember using these connecting ways, when they were children, in elaborate games of hide and seek. ***7,*** at the top of the ramp, shows the bridge running off to the right, and two of the recesses in which the Kannon statues were displayed—these have now been replaced with pictures of the Twenty-four Dutiful Children.



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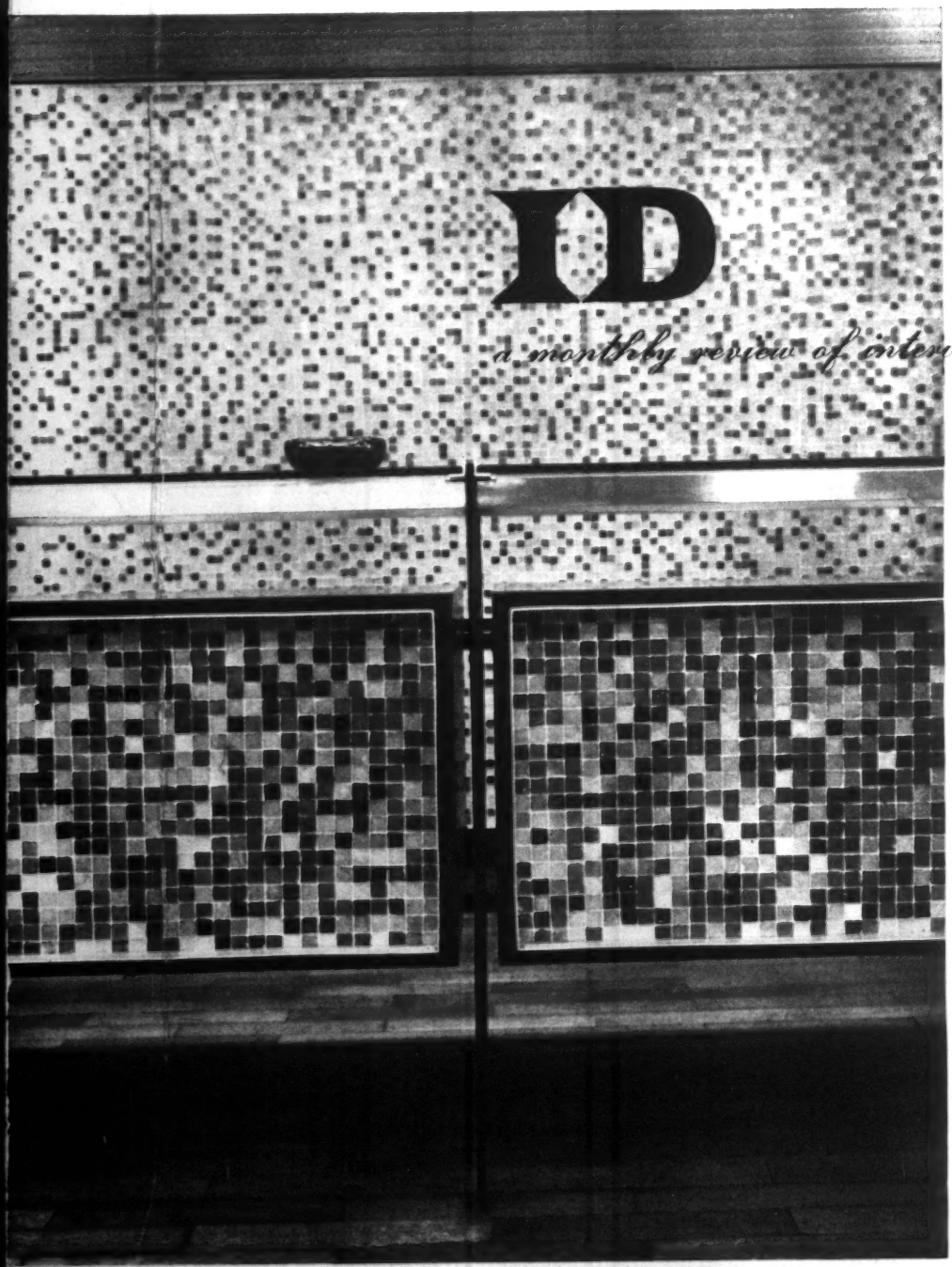
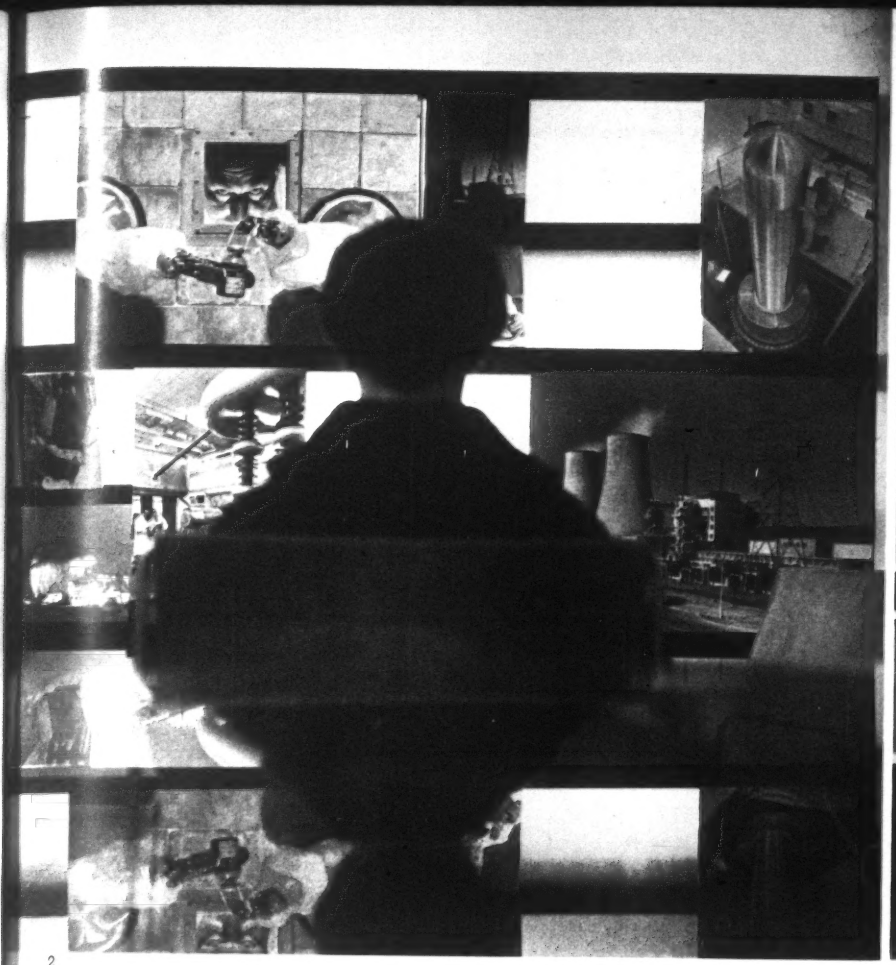


ID

a monthly review of interior design

1, mosaic-fronted counter in the Atomic Energy Authority's offices.



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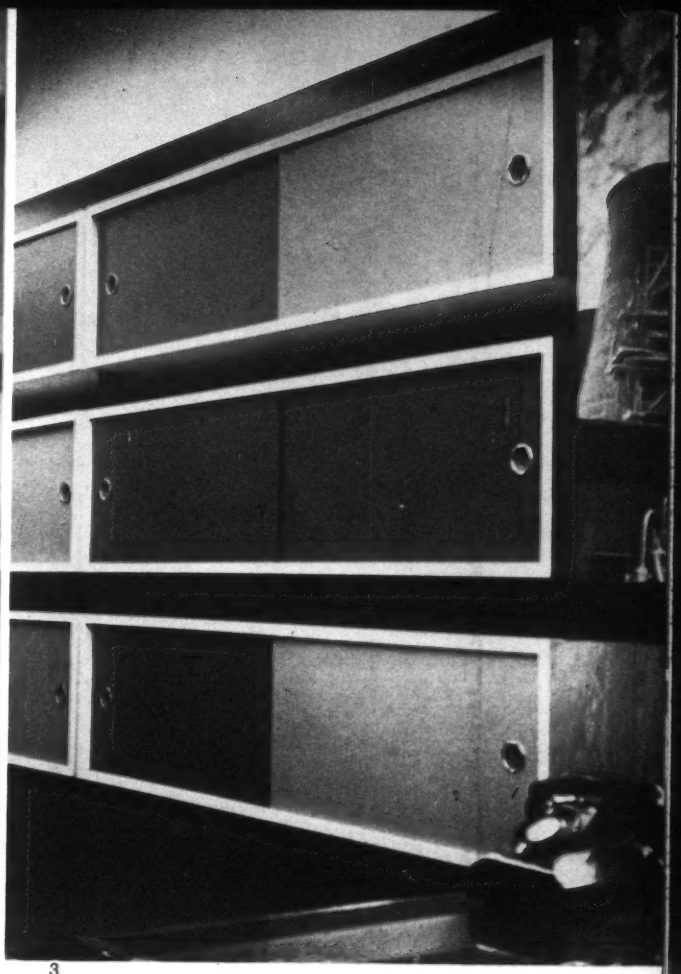


3

Offices in Charles II Street

Designer: Kenneth Grange

These offices in the Atomic Energy Authority's new building off the Haymarket in London contain the information and photographic libraries and are the only part of the building accessible to the general public.

1. opposite, detail of the counter front, with glass top supported on aluminium alloy rails. The other metalwork is black mild steel; the counter front and the screen behind are faced with mosaic on blockboard.

2. at the far end of the office is a metal frame designed to carry a display of photographs of varying sizes.

3. to the left of the photograph display, the metal racks carry cupboard units faced with stove enamelled hardboard.

4. the information counter near the entrance. The screen separating it from the private office area has two windows, one for observation when seated, the other when standing.

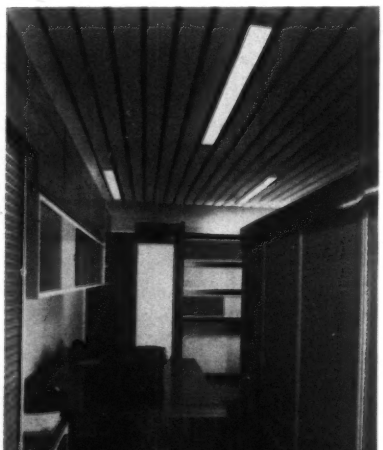
4

5

5, the back of the counter, with specially designed storage racks protected by a roller shutter.
6, general view from the entrance looking towards the photograph display. The glass screen deflects visitors towards the counters on the left.

6

7, the photographic library office. The storage units on the right form the back of the mosaic screen seen in 1. The ceiling is of fibrous plaster, with slots for artificial ventilation and purpose made fluorescent fittings.



7

The fabric of the building was designed by Trehearne and Norman, Preston and Partners, in association with Norman and Dawbarn.

8

9

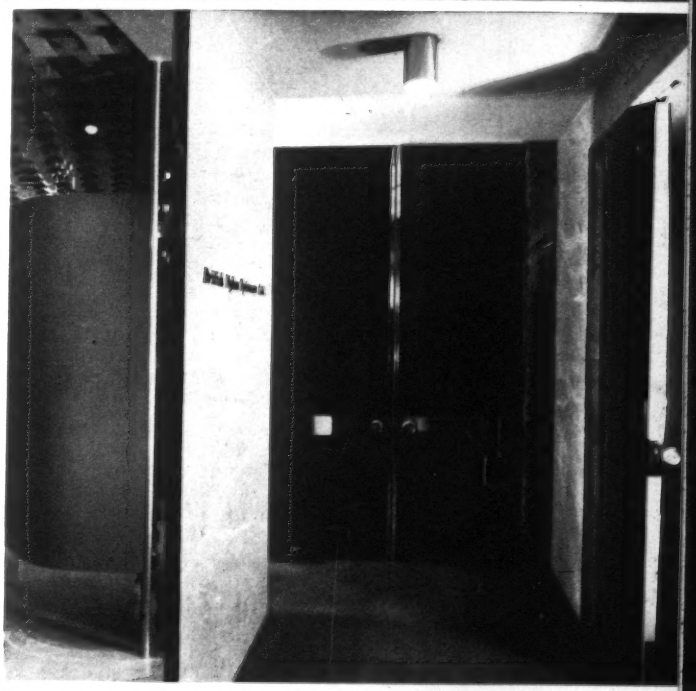
Showrooms in Knightsbridge, London

architect: Dennis Lennon

These showrooms on the first floor of Bowater House, Knightsbridge, were designed for the display of nylon goods and occasional use for fashion shows, with a reception area serving both the showroom and the adjoining offices. All the furniture and fittings were specially designed by the architects.
8, the windows are screened with slatted aluminium and blue perspex blinds which slide behind blue, nylon-covered panels on the walls. The louvred aluminium ceiling conceals batteries of small lights and spotlights.
9, the end wall of the showroom is of Italian white marble briquettes with plate glass shelves slotted into it.
10, general view of the showroom, showing the semi-circular display stand covered in black velvet on the left. The wall on the right is panelled in blue leather and contains a nylon cloth index library.
11, lobby panelled in white marble.

9

11



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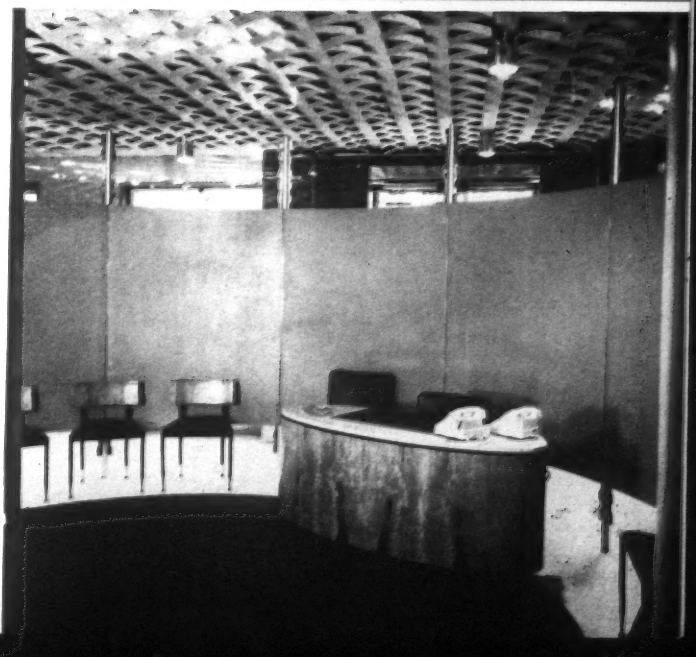


13

12. bl leather doors leading into the circul reception area.
13. th panels enclosing the reception area covered with natural leather, with te glass panels at the top, and are ried on brushed steel and polish brass rods. The white marble floor ntinues into the showroom. The oval sk is of yew with a white marbl top ; the chairs have yew backs and s ts of blue nylon velour.

10

DR

design review

Timo Sarpaneva

Timo Sarpaneva, the Finnish designer, is still only in his early thirties but he already has a dazzling record of international success. He is best known in England for his glass for Iittala but he is also a talented and unconventional graphic and textile designer and an exhibition planner.

Woollands (in collaboration with Conran Contracts) put on a stimulating and memorable exhibition in February of his textiles and glass. The fabrics are variations on broad bands of miraculously blended colours and related tones, as much a revelation of the masterly use of simple colour as the Finnish rugs shown at the V and A last year. They must be handled to be appreciated and this can be done at Woollands and Conran Fabrics.

1, *a selection of the glass is shown below. The pieces range from the larger decorative vases and jugs like the tall conical one in the centre with the heavy base, costing £7 13s. 3d., and the practical carafes in thin glass costing about 27s. 6d. each, to the smaller glasses and bowls. These are for everyday use and cost from 36s. 6d. to 65s. for six, depending on size and shape. The colours are clear, grey, purple, olive and steel blue. All the designs have a mathematical assurance of line difficult to associate with the fluid state of molten glass and evidence of brilliant technical skill.*

Heal's Fabrics

In Heal's fabric collection there are roller printed cottons, not always exciting, but good value at 11s. 9d. and 13s. 6d. a yard, 48 in. wide. Several are the work of young designers, and it is characteristic of the firm that they are all given full credit.

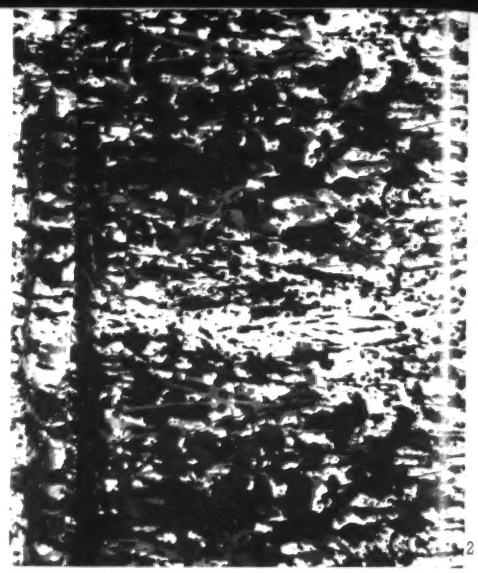
2, *the handscreen prints are not so successful, but 'Nebula', designed by Betty Middleton-Sandford, is outstandingly good. There is only one colourway; close toned blue, green and purple printed on white textured cotton, presumably carrying out the designer's original intention. It costs 21s. 9d. a yard, 48 in. wide.*

This is a rare instance of a good fabric design derived from the work of "Tachist" painters.

Tachism relies on texture and contour as well as colour for its impact. Any attempt to translate such a technique too literally on to light cotton, use it as a repeat and then drape it into folds is dangerous. The close-toned arrangement of colours sparingly used on a clean white background give this design depth and sparkle. The repeat, though clearly defined, is sufficiently restrained to produce an all over pattern which drapes well.

3, *another example of the same feeling is 'Pavonian Spray' by Gordon Dent. The design is printed on cotton in subtle versions of olive green, dark red, purple and blue and the fabric costs 24s. 9d. a yard.*

Here 'tachism' has become confused by an uneasy hint of naturalism and the design, though pleasant enough by virtue of the richness of the colours, appears false by the insistence of the repeat.



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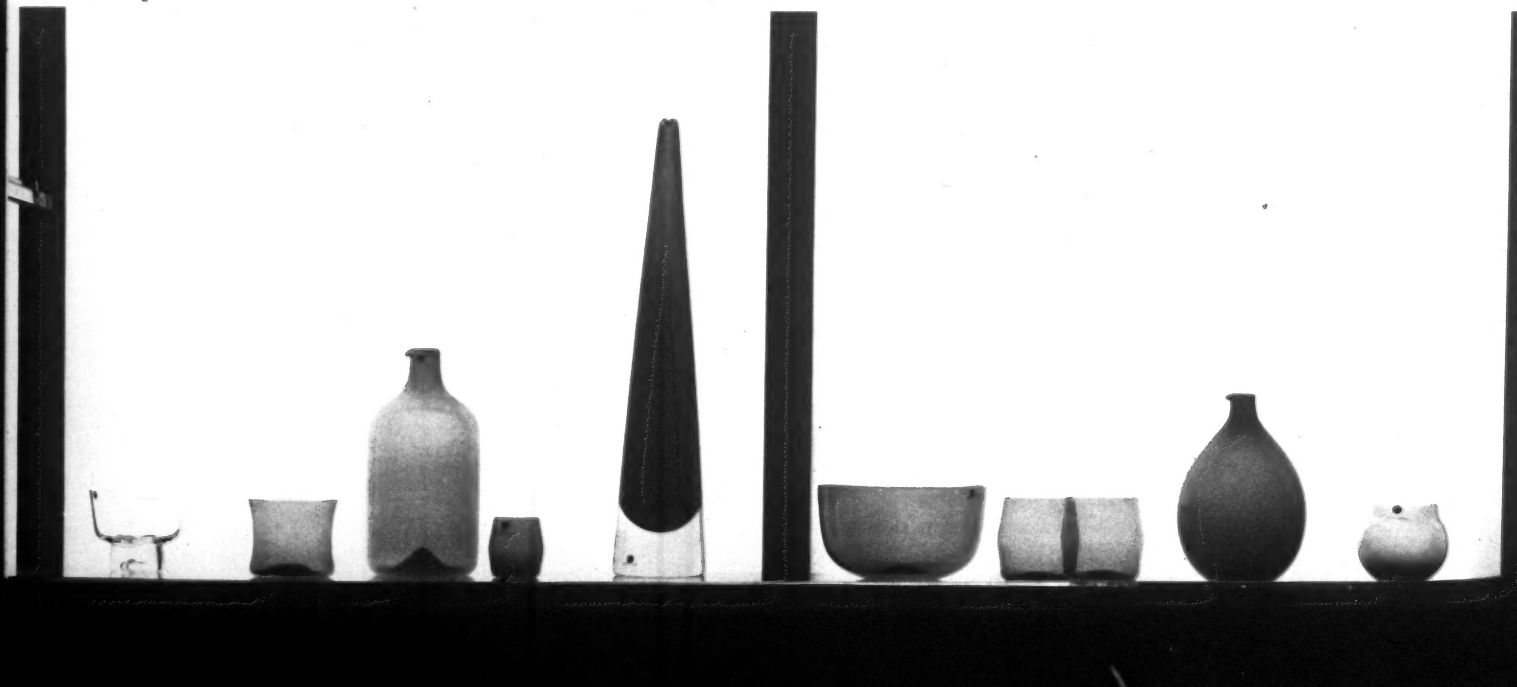
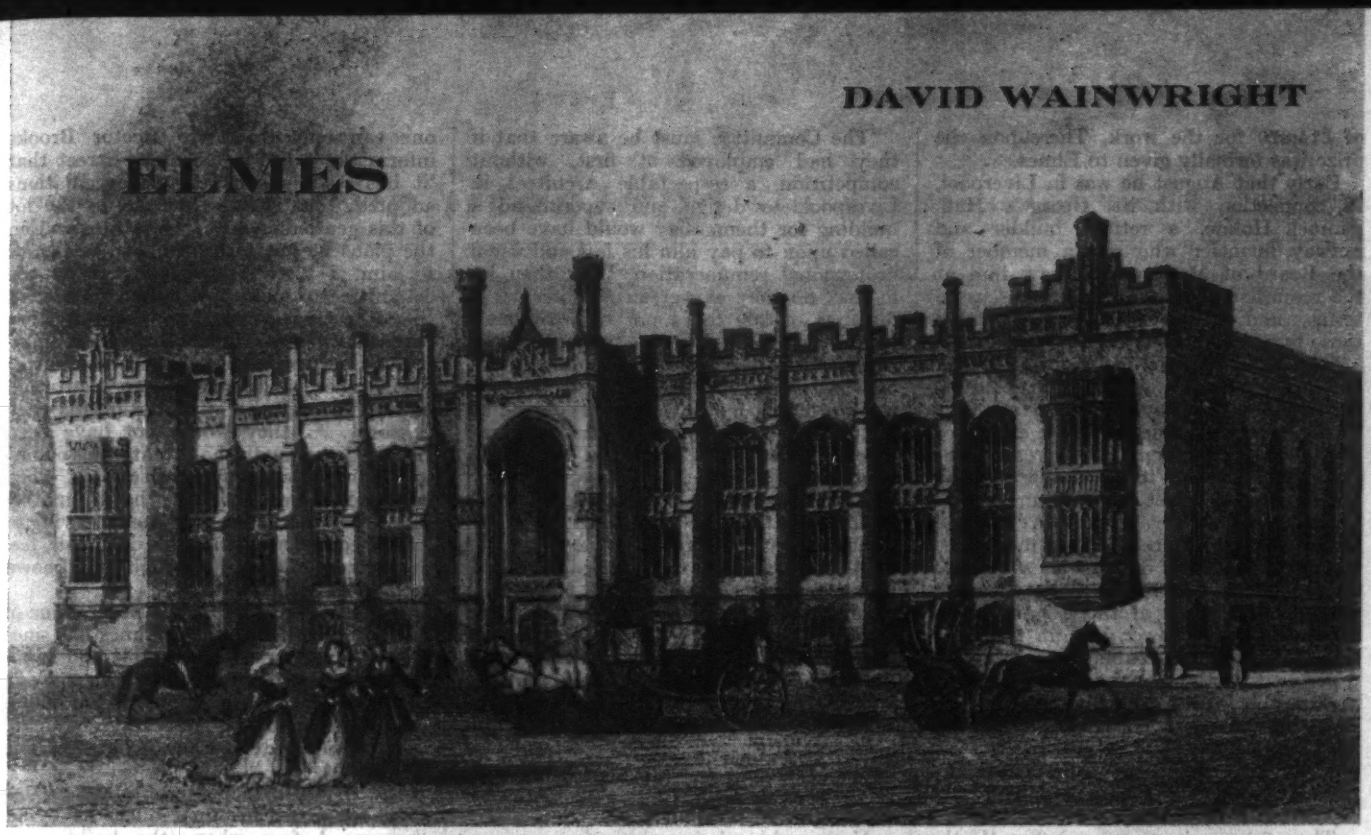


ELMES

DAVID WAINWRIGHT



Harvey Lonsdale Elmes is famous for St. George's Hall in Liverpool, but his Shaw Street school is less well known. Whatever its merits as architecture, it involved Elmes in wrangles over professional status and responsibility that reveal much about himself and the position of architects in early Victorian England.

The quality of St. George's Hall, Liverpool, as a notable piece of Victorian Renaissance design is unchallenged, though its architect, Harvey Lonsdale Elmes, was only 24 when building began in 1838. He had trained in Bath and his office was in London, at 11 Park Street: but his sudden reputation naturally brought him several commissions locally in Liverpool for suburban houses.

Two years after he won the competition for St. George's Hall he entered for another competition for another public building in the town, but one of a very different style.

In the summer of 1840 the committee of the Liverpool Collegiate Institution advertised for a design for their new school. Space was needed for three schools, Upper, Middle and Lower, the boys of which were to be rigorously segregated so that the delicate natures of the Upper School boys might not be contaminated by the influence of the robust sons of the working classes in the Lower School (their parents were similarly kept apart at official functions in the Lecture Hall).

The Instructions to Architects stipulated that the building was to be of red stone, encased in bricks, and 'in the Tudor style of architecture.' Partly this rule was due to the common Victorian belief that Gothic was proper for educational establishments; partly to local feeling that Liverpool—whose maritime prosperity had flowered within the century—ought to fulfil its want of a good representational Tudor building; and partly to the success of Charles Barry's New Street design for King Edward's School, Birmingham, which had been opened two years previously.

Elmes won the competition, his motto on the plans and on the sealed envelope containing his name being 'Tria Juncta in Uno' in a triangle. Second prize was awarded to Messrs. Scott and Moffatt. But Elmes's relations with his clients were far from happy. With a certain youthful impetuosity he seems to have compromised himself over the arrangements for the building of St. George's Hall: and the contemporary Minute Books of the Liverpool Collegiate Institution's Board of Management* show that he was forced to use every weapon in the armoury of his professional probity to try and extricate himself—and then he failed.

There is no suggestion that the Board, of which the two Rectors of Liverpool were Chairmen, acted other than with strict honour. They had a narrow budget on which to plan, and indeed incurred a debt of many thousands of pounds which it took twenty years to wipe off. Perhaps, again, they were aware of the situation at Birmingham, where Barry's building, however triumphant architecturally, had put that school into economic doldrums.

For the erection of the schools a limit of £15,000 had been set. The Secretary, John Gregory Jones, wrote to Elmes on 28 July, 1840, to tell him that he had won first prize 'provided you can shew them, as you purpose, by a detailed estimate, that it can be executed for the sum of £15,000.'

Elmes replied by return of post that he would be happy to supply such an estimate: 'but before entering into an elaborate calculation of that kind I am desirous of knowing whether it is the intention of the Committee to employ me in the usual manner to superintend its execution.' If that were so, he went on, he would like his drawings back to prepare the estimate.

The Secretary wrote back that he was putting Elmes's letter before the Board; and he asked whether the architect could dispense with any of the drawings, as they were wanted for public exhibition. Elmes replied that he needed all of them except the perspective view of the exterior.

But his letter crossed with one from the Secretary, rather abrupt in tone. 'I am directed by the Building Committee . . . to state . . . that until the first Premium has been positively awarded they do not consider themselves authorized to enter upon further arrangements, and that all which they require from you is, such an estimate as may guide them to that result.'

Elmes kept his temper. Within two days he had put in the post four and a half pages of cold logic, suggesting that 'some practical man in Liverpool' should be asked whether he thought Elmes's building could be put up for the price. The suggestion was imprudent. By it he gave his sanction for local interference, if only in one aspect of the case. But he concluded: 'If the Committee so far approve my design as to honor me with their further commands I will *then* make such an Estimate as shall not only satisfy them of the amount but on which I would then willingly stake my professional character. And if it is found *necessary* I could thereupon consulting with them make such modifications in it (without destroying its general character) as should bring the amount within their means. In this case I should of course forego all claims to the Premium . . .'

Four days later a Liverpool surveyor, Edward Argent, presented a rough estimate

* Quoted here by permission of the Headmaster and Council of Liverpool College.

of £14,870 for the work. Thereupon the prize was formally given to Elmes.

Early that August he was in Liverpool, in connection with St. George's Hall. Samuel Holme, a retired builder and railway financier who was a member of the Board of Management, saw him at the request of the Board. They discussed terms, and Elmes subsequently stated those terms in another letter.

'The usual charge for working plans, specifications and superintendence are 5 per cent on the outlay and travelling expenses.† Mr. Holme, however, explained to me that although he was sure the Committee desired to treat me liberally and honourably, yet their means are at present confined in proportion to their proposed expenditure. He also mentioned the circumstance of distance as somewhat objectionable. I therefore shall endeavour to meet the views of the Committee as far as lies in my power and am willing to undertake the superintendence of it for 5 per cent on the amount of the Contract and pay my own travelling expenses. I must say I object entirely to preparing working drawings and specifications without having the entire superintendence especially of a public work. . . . These are my definitive terms. . . .'

Then follows this curious offer: 'If the Committee honour me with the superintendence of this building, I shall be most happy to place my initials H.L.E. in the list of subscribers or donors for £100. But I can on no account whatever do an injustice to my professional brethren by undertaking business at anything under the usual terms.'

A sub-committee appointed specifically to come to an agreement with the architect determined to answer money with money, and Elmes was informed that £105 had been lodged in his account at Messrs. Roberts, Curtis' Bank, being the prize of 50 guineas and an extra 50 guines 'as a presentation from the Committee as a mark of their appreciation of the talent displayed in your design for their intended Institution.' But this could not ameliorate their decision not to accept his terms and to make other arrangements.

Elmes wrote back immediately thanking the Committee, but stating that he felt that his professional character would be affected if his building were handed to someone else to put up, and requesting the return of his drawings. 'I entered this competition . . . with the firm conviction that the successful competitor would be employed in the usual manner. But if the Committee can find any other persons who will wilfully degrade their profession by acting as I have refused to do, I must willingly retire from such a competition.'

On the day the Board in Liverpool received this letter, they were already putting the work in hand: the same Edward Argent, surveyor, who had earlier been employed to estimate costs, was taken on at two-and-a-half guineas a week 'to make working drawings, specifications, etc., for, as well as to superintend the erection of the intended building.'

As they came to this decision Elmes was putting pen to paper for his heaviest broadside.

† This is borne out by Barry's terms at Birmingham.

'The Committee must be aware that if they had employed at first, without competition, a respectable Architect in Liverpool, to design and superintend a building for them, they would have been called upon to pay him his fair and usual professional remuneration. Why then let me ask do they expect an Architect at a distance of 200 miles not only to incur travelling expenses but to undertake the work at less than the usual remuneration, or what is worse to leave the execution of the work to persons perchance devoid of all taste and probably ignorant of every true principle of the art. . . . I will rather submit to the loss of professional employment for years than I will undertake any building without having the entire superintendence and control of its execution.

'As my name has now appeared in the public prints as the successful competitor I think it right to inform you that I intend publishing your last letter and my answer, in defence of my professional character.'

He enclosed with this letter a paper written in protest by the architects of Hamburg in 1836, when the Senate and Burghers of the city offered a competition for an Exchange, and reserved to themselves the right not to employ the prize-winning architect.

Unmoved by their architect's arguments but pricked by his comments, the Committee passed a resolution that Elmes had used expressions reflecting on the conduct of the Board 'which were unjust and uncalled-for.' Meantime they took legal advice on whether they might retain the drawings.

They further brought up the precedent of St. George's Hall. In that case 'you acted otherwise. You prepared a detailed estimate.' The Board of the Liverpool Collegiate Institution were well aware of their facts: their chairman, Rector Jonathan Brooks, had been chairman of the St. George's Hall committee at the time. 'The Committee have not acted without precedent. In the case of the Middlesex Lunatic Asylum, an architect of the name of Alderson was the successful competitor, but the Middlesex magistrates did not employ him.

'It was gratuitous on your part to insinuate that the Committee had any intention to "degrade your profession" or to add that "you most willingly retired from *such* a competition." Indeed under the present circumstances you can hardly consider yourself badly paid by the award of £55 beyond the stipulated premium when, as you stated, the drawings only occupied you a few days and were almost entirely the work of your own hands.'

That letter closed the correspondence. The foundations were excavated, and the foundation-stone laid with much civic and ecclesiastical pomp by Lord Stanley, 'the Rupert of Debate,' on 22 October, 1840. In the six weeks from the date he received the Committee's ultimatum, Elmes must have decided to make the most of a bad job: to superintend the building as best he could on his visits to Liverpool for the paid purpose of assisting in the erection of St. George's Hall.

He was, at any rate, sufficiently reconciled to attend the ceremony that October: and he listened, with what inner feelings one can only guess, to Rector Brooks inform the gathering in Shaw Street that 'it has so happened, by the regulations adopted, that it does not fall to the lot of this gentleman to carry into execution the plans he has furnished; and in justice to him, I have been requested by the committee to make this public statement, that the reason why he has not been entrusted with the future care of the building, was in consequence of the committee feeling that, as trustees of an institution of this nature, and with the means they possess . . . they would not have been justified in going to the extent of his claims as a remuneration for his services. They could not but acknowledge that his motive in making that claim was one deserving of great commendation: he did not feel authorized to break through the known rules of his profession.'

A footnote in the printed programme of the day records that 'Mr. Elmes has since offered, in the most honourable and handsome manner, not only to furnish working drawings for those portions of the edifice which affect its architectural character, but to superintend their execution free of all charge.'

Liverpool had most certainly beaten him. He made his final offer, he wrote, 'because I fear when (the building) is finished and publicly criticised, I shall be obliged in self defence to repudiate it, a course I conceive attended at all times with unpleasant if not ill feelings, and which may now ere it is too late be avoided by the Committee placing that part of the structure only under my care'—'that part' being the principal front upon which all the detail was concentrated.

This was all agreed: but the Board and the Committee in Liverpool went on chopping and changing their internal plans, even where they affected the principal front. There is no record of Elmes's reaction to the final letter in this correspondence, in which the Secretary announces that they are dispensing with two small windows shown on the plans, so that the walls flanking the central doorway can be thickened 'for the purpose of sustaining a central tower should it be subsequently determined to erect one.'

The schools were formally opened by William Ewart Gladstone in January, 1848. Four years later Elmes was dying in Jamaica. He saw the completion of the Liverpool Collegiate Institution, over which he had encountered such trouble: but he did not live to see St. George's Hall finished, his finest memorial.

The Liverpool Collegiate School now occupies the Shaw Street building which Elmes designed—an amalgamation of the two lower schools of the original foundation. The Upper School, under the name of Liverpool College, abandoned the crumbling heart of the city after only 40 years for a more salubrious suburb.

Elmes never publicly repudiated his part in the building. But time has been kind to him. St. George's Hall sits massive and monumental on its plateau, the first Liverpool building, and the finest, seen by those arriving on Merseyside by rail. Only duty takes one to admire the Collegiate Gothic facade in a back street, gloomy with the grime of a hundred years.

1, *the central dome of the southerly group viewed across the lily pond.*

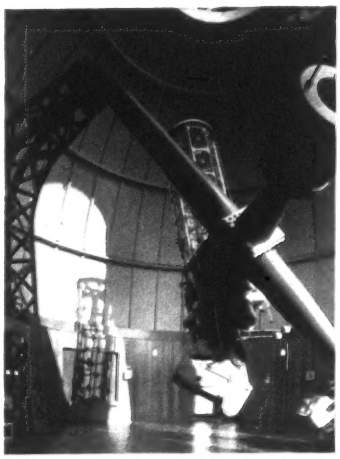
ROYAL OBSERVATORY AT HERSTMONCEUX

ARCHITECT: BRIAN O'RORKE

The Royal Observatory has been moved from Greenwich to Herstmonceux to avoid the increased interference with observations caused by street lighting and atmospheric pollution. In the existing castle are offices, library, conference room, staff canteen and a residence for the Astronomer Royal. New buildings include the Meridian and Equatorial Groups, the Time and Nautical Almanac Building and a works pound with boiler house and garage.

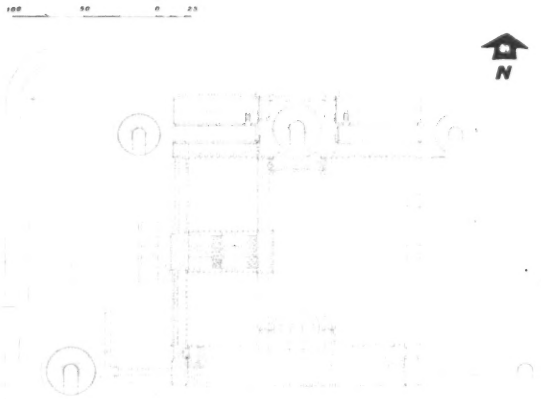
The Equatorial Group consists of six domes, set on high ground east of the castle. The general design of the domes

2, *six domes of the new Royal Observatory with the laboratories in the centre.*



3, *interior of the north dome housing the 36 in. Yapp reflector.*

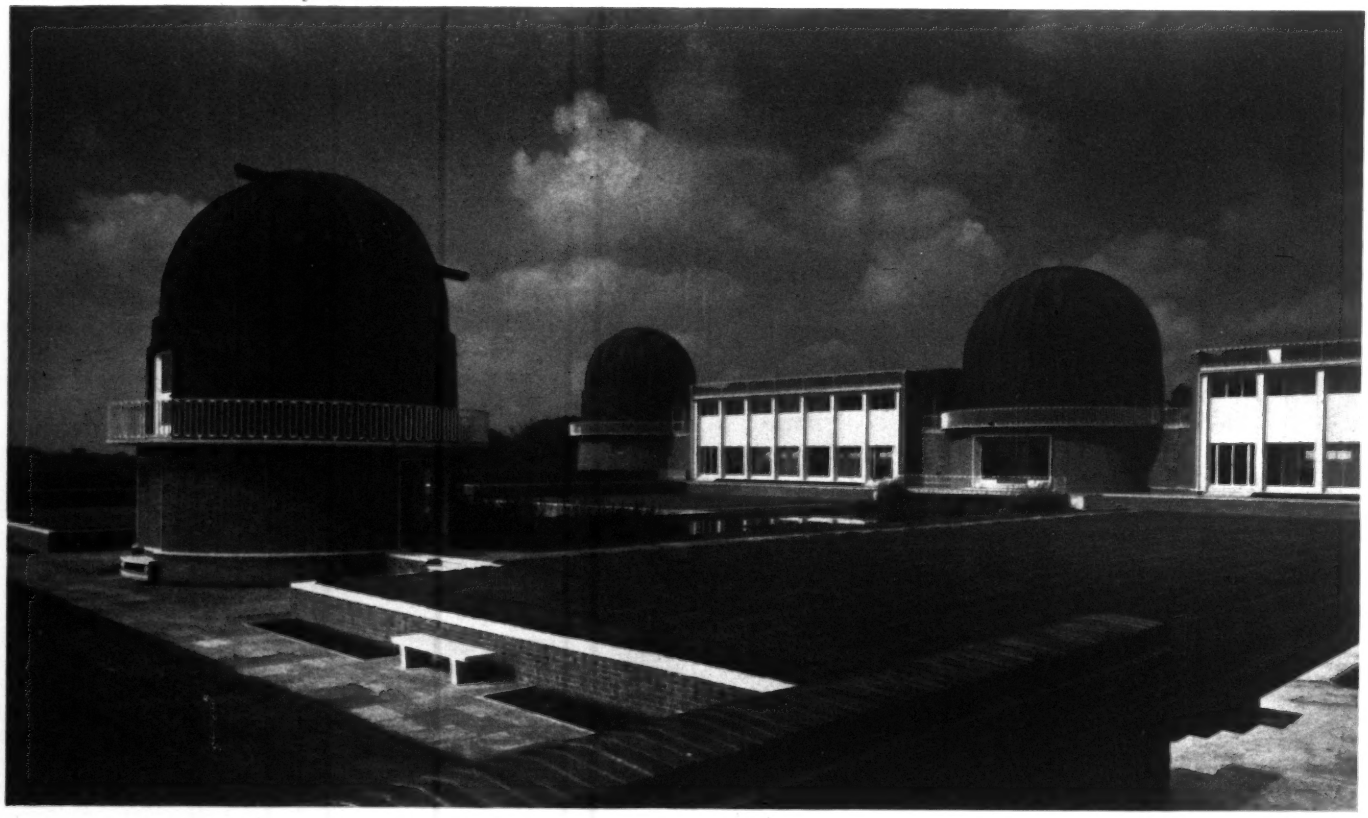
Royal Observatory at Herstmonceux



layout plan

is similar but diameters and floor levels vary. Deep foundations are carried down independent of the buildings. The construction up to floor level is of reinforced concrete with brick facing, with a cavity between. The dome drums are in light steel faced on the outside with copper on boarding and internally with removable vertical board panelling. The revolving domes are framed-up with steel tube horizontals and channel ribs to which wood grounds are fixed to take a sandwich covering of super hardboard with glass fibre insulation and copper covering. The linking buildings are steel framed with double cavity walls and the windows along the south side have counter-balanced sash louvred metal shutters. The buildings are faced with traditional Sussex wood-burnt bricks with blue-grey headers and the balconies, copings and window surrounds are in Portland stone.

4, *laboratories and dark-rooms seen from the south.*

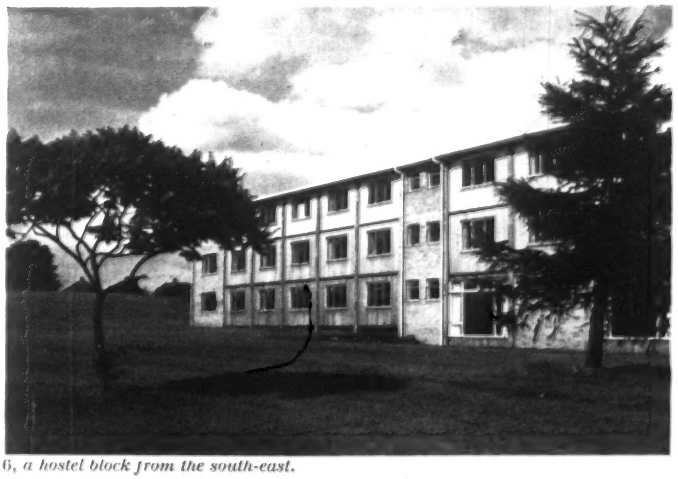


5, one of the halls of residences seen from the east; infill panels are of cedar boarding.

TEACHERS' TRAINING COLLEGE AT COVENTRY

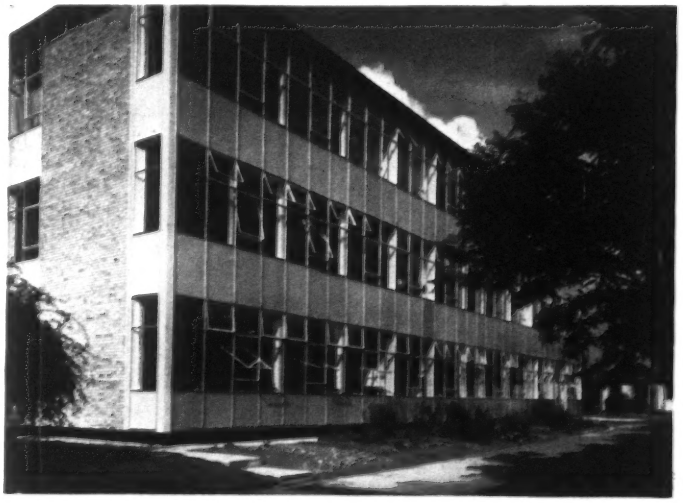
ARCHITECTS: W. S. HATTRELL & PARTNERS

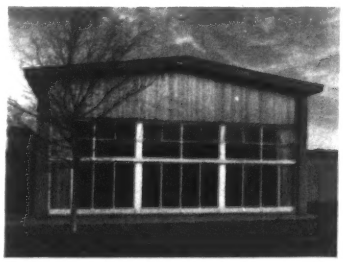
This teachers' training college is at Canley, south-west of Coventry and has been built at irregular intervals since the war to replace the temporary buildings originally used. One hall of residence accommodates 75 students and 6 staff, with five smaller halls, each for 45 students and 3 staff. These halls are of three storeys, with study-bedrooms facing east or west, and with a laundry room, kitchen and bathrooms on each floor and a common room, workroom and small room for entertaining on the ground floor. The blocks are of cross wall construction with floors of prestressed r.c. planks and hollow blocks, and timber felt-covered roofs. The infill panels are of cedar boarding and the ends of the cross walls are faced with Hornton stone. The classroom block is of unit construction on a 3 ft. 4 in. grid, with opaque panels in glass curtain walling.



6, a hostel block from the south-east.

7, class-room block with glass curtain walling.





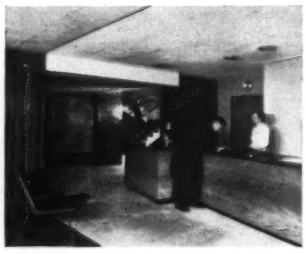
8, exterior of the music and drama block.

9, entrance façade with the main office block on the right.

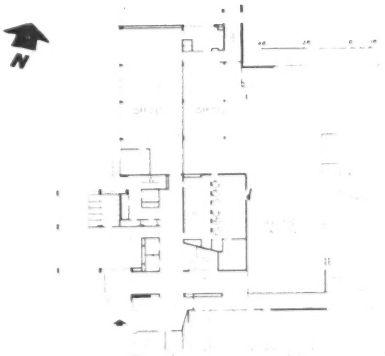
OFFICES IN KENDAL

ARCHITECTS: RAMSEY, MURRAY, WHITE AND WARD

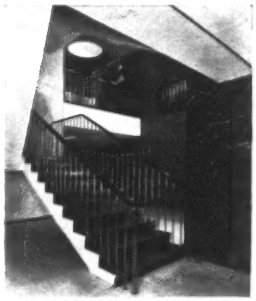
This building, in Stramongate, a stone-built town in the Lake District, forms the first part of the extension of the head offices of an insurance company. To avoid conflict with the scale of the surrounding buildings it has been set back from the road to appear as a tower rising behind the street facades. The central core of the building is formed by a nine-storey artificially ventilated filing stack contained in a fireproof concrete shell and with a floor-to-ceiling height of 7 ft. 6 in. One wing to the south-east contains four floors of offices, another to the north-east contains cloakrooms, offices and the directors' dining room and kitchen. Suspended ceilings of acoustic tiles mask electrical conduits and allow the fluorescent fittings to be fixed flush. Floors are of wood blocks except in the entrance lobby, where nabresina marble is used. The walls of the entrance lobby are glass mosaic with black bean timber linings; staircase walls and floors are faced with off-white terrazzo. Externally the facing materials are Portland stone and Westmoreland green slate. Window frames are aluminium.



10, reception desk in entrance lobby



11, main staircase from the entrance lobby.
12, view from the directors' dining room on the top floor.



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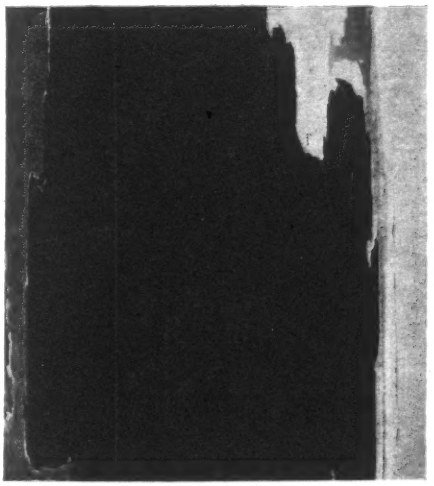
12

EXHIBITIONS

PAINTINGS

If the spectacular exhibition of The New American Painting recently held at the Tate Gallery under the auspices of the Museum of Modern Art and the Arts Council is anything to go by, there are no spectacular new developments to report since we were shown examples from the Museum's own collection in 1956. The new selection was devoted to the work of seventeen artists—five more than in 1956—and no more than three or four of the canvases have been here before. The painters who stood out as leaders in the earlier show have not lost any ground, but one of them, Clyfford Still, seems to have rejected his own fame: he has not held a one-man show since 1951, and was not represented at the Tate by anything later than the famous 'Painting, 1951,' 1, which is one



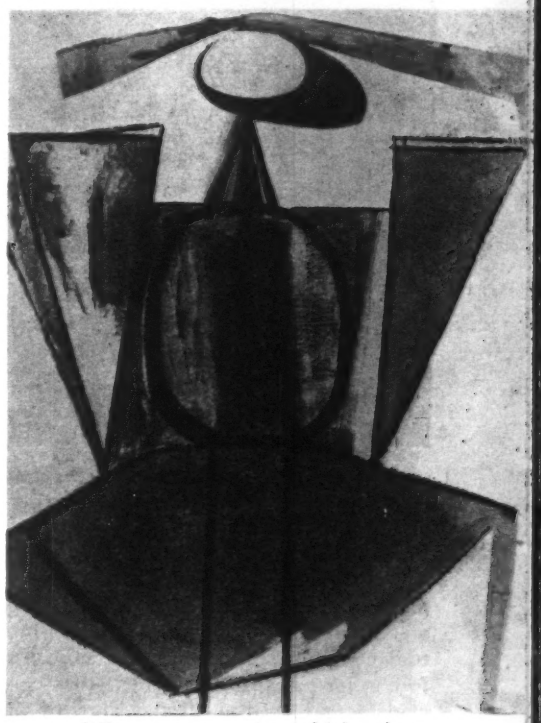
1

of the pictures that has been here before. Built entirely for forceful confrontation, and carrying only unintentional messages, it remains a typical product of the movement.

It was Clyfford Still who, a few years back, remarked that 'from ancient times the artist has been expected to perpetuate the values of his contemporaries,' and who thought that things like 'Painting, 1951' constituted an unqualified refusal to go on doing so. He was mistaken; and no doubt his refusal to exhibit reflects his dismay at having become one of the honest Abes of The New All-American Painting. It's a bitter pill for him to swallow, but it is now only too evident that his kind of painting is just what a large, rich, naïve civilization, clinging to the myth of the individual and operating the biggest entertainment industry in the world, might expect its 'fine art' to be. Whether the artists like it or not, their work has been turned into a National Asset, and these big, strong, uncommunicative paintings have become posters, advertising America's 'spiritual values' in a properly spectacular way.

Of the five artists who were not exhibited in 1956, Barnett Newman, Adolph Gottlieb, Jack Tworkov and James Brooks are all over fifty years old, and each of them adds his portion of 'rugged individualism' to the movement, without being in the slightest degree disruptive. The fifth, Sam Francis, who works in Paris and for that reason is better known here than any of the others, is only thirty-six. His placidly beautiful 'Big Red,' painted in 1953, was the largest picture in an exhibition of large pictures: but his work has a quiet, monotonous refinement, and if his exhibits had been typical the show would have been just about as interesting as the room of Indian carpets at the V and A. He can cover a large canvas as nicely as anyone, but his 'cellular' approach means that size does not really present him with a challenge, and his work lacks the tension, the large gesture, the sense of adventure that gives the paintings of his seniors their spectacular qualities.

We are not likely to see any very radical changes in the work of the men who created the movement. As Alfred H. Barr says in his excellent catalogue preface, 'the artist's concern with the actual painting process as his prime instrument of expression . . . tends to eliminate imitative suggestion of the forms, textures, colours and spaces of the real world;' and as a matter of fact the latest exhibition strengthened the impression one had in 1956 that when references to other realities appear in these works they always bear the look of a facetious or muddled intrusion, and invariably weaken the impact of the paintwork. In this respect, I have in mind the fanciful figures of Baziotes, the fragments of impressionist appearance in Hartigan, de Kooning's satirical images of women, and in Robert Motherwell's 'Personage with Yellow Ochre and White,' 2, painted in 1947, the almost stupid reference to the many studies of a woman seated in a chair, made by Picasso in 1938. But in 1947 the movement was in its infancy, and Motherwell is not likely to make such a tactical error again. It wasn't particularly fair to him to put it in the show, but it served as a sample of the

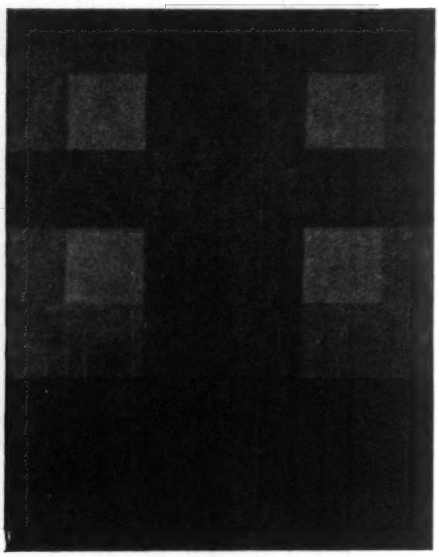


2

many different ways in which these painters were working before they decided to put all their faith in paint performance, and it provides a partial explanation of the remarkable differences between the work of one painter and another. Each man's work seems to carry, however obliquely, the impress of his previous figurative and visionary preoccupations. This applies, at any rate, to the older generation. A younger man like Sam Francis hasn't the same background of figurative struggle: he has been an 'abstract expressionist' since his student days, and his work hasn't anything like the same impact as that of the older men. There are now hundreds—literally hundreds—of young painters attached to the movement who have never been anything but 'abstract expressionists,' but what little one has seen of this vast acreage has been far from impressive and much inferior to the work of Francis—which suggests that this kind of activity is now merely an aspect of American behaviour.

It begins to look as if 'abstract expressionism' considered as a serious art form is primarily the contribution of one generation of Americans.

Perhaps the work of a young painter like Ellsworth Kelly—a few samples appeared in the USIS Gallery in Grosvenor Square a few weeks ago—is a sign of the way American painting may start 'communicating' again. Kelly makes large but abstracted references to the American



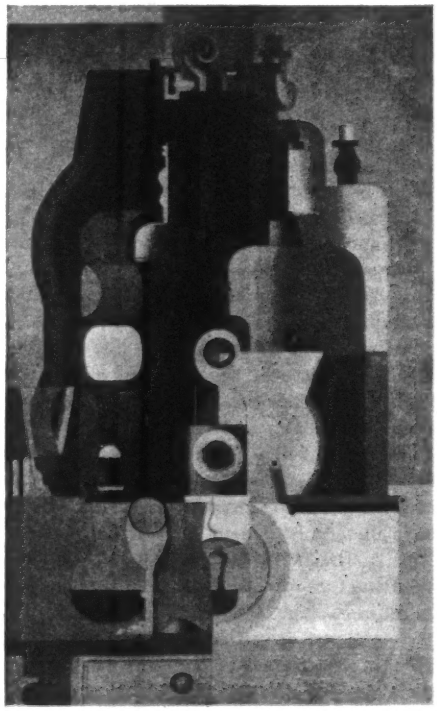
3

scene, 3, and at the same time very severely disciplines his paint performance. Furthermore he has a sense of monumental scale that enables him to paint small pictures without losing face, and to paint large pictures that look even larger than they are. He appears to have slipped back into romantic puritanism, but he retains the feeling for painting as spectacle that is so evident and exciting in the work of the abstract expressionists.

The Purist paintings by Le Corbusier included in the touring exhibition which came to the Building Centre were, like some of the buildings recently described by Professor Pevsner, in need of care and protection, and it is to be hoped that they will soon be in the comparative safety of public galleries. They are his best contribution to painting.

Little was said about them at the time of the show, but Reyner Banham made an interesting reference to them: 'The invention of Purist painting is clearly the work of the sophisticated mind of Ozenfant, but its best pictures are all the work of the ready hand of Charles Edouard Jeanneret.' This is true in a way. It's true that the best pictures are by Jeanneret, but not because he had a *ready hand.* Ozenfant put the theory into practice lightly, brilliantly and with a very ready hand. He had a perfect grasp of his own theory and knew exactly what he wanted to do. Jeanneret, on the other hand, had to grope his way into an understanding of it, and there are signs of the struggle of a simple but true painter in the earliest examples, signs that it was only in the act of painting that he could discover what the theory demanded of him. Some of these very early works, in which he couldn't bring all the objects on to the picture surface, and because he thought they had to have somewhere to stand, made funny little pockets of space for them, must have sent Ozenfant round the bend, but I find them as moving and precious as the first cubist works of Gris.

It is worth remembering that the Purist experiment occurred immediately after the first world war, when very few artists were in the 'dada' mood, and feared even the great pre-war period of cubist experiment. The desire for some sense of security led to general reaction under one of those calls to order which usually designate fear. Picasso himself gave the lead, and although it was an extremely equivocal one it led to various kinds of neo-classicism. Purism was involved in this neo-classical revival, but it was, to my mind, an outstandingly intelligent and constructive aspect of it. It was an attempt to reassert the importance of the objective world without sacrificing the formal discoveries of the cubists, and at their best Ozenfant and



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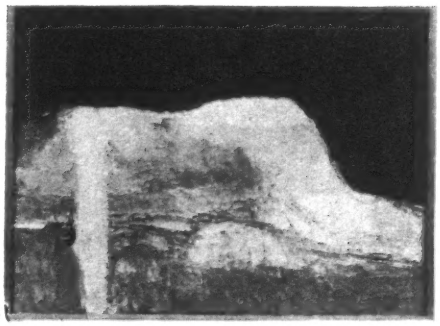
Jeanneret created a serene and stately pictorial architecture that was completely contemporary in spirit.

Jeanneret's contribution to Purism was curious. It is the work of a follower, but the pictures have greater presence than those they emulate. He was more human than Ozenfant in his pursuit of purity; far less immaculate. There is something of the solemn child and something of the alchemist, in the way in which he became totally absorbed by a magic formula for putting common objects above themselves, and patiently built up a masterpiece like this still life of 1922, 4.

I go to many shows, and sometimes I scribble an odd note or two on the catalogue, but they hardly ever prove to be useful because they reflect a day-dreaming



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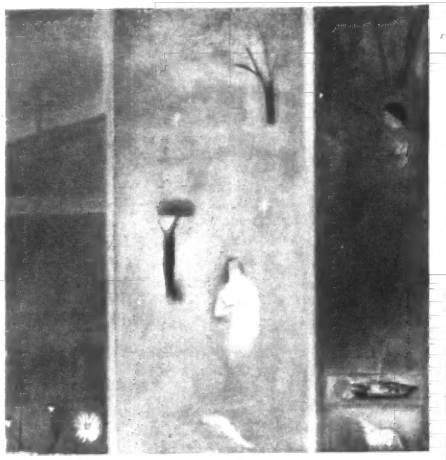
state of mind in which the pictures are treated as extensions of reality. About Peter Kinley's 'Nude,' 5, which was one of the handsomest pictures in the Arts Council show of recent CAS purchases, I wrote: 'Would have to scrape off paint to see what girl is really like,' and I found that I had much the same thing to say about the latest batch of Bratbys at the Beaux Arts: 'What a fearsome world! There's paint over everything!' At Tooth's mixed show of English work, I didn't have anything to say about the pictorial values in Sickert's delightful little oil of

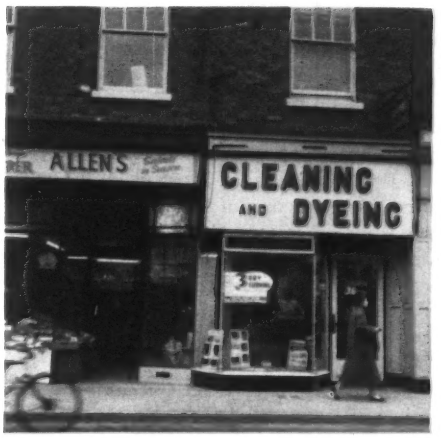
6

'The New Bedford,' 6, but simply noted that the statue between the two boxes was more real than the people and looked as if she were about to walk across the auditorium on a wire. Craigie Aitchison, whose one-man show preceded Bratby's at the Beaux Arts, gave me the rare and presumably reactionary pleasure of being able to forget the performance of the paint. I have no doubt at all that it was performing very adroitly but I was too absorbed by the images it projected to notice it. Aitchison paints flowers as if



they have minds of their own, and quite clearly has a preference for those rather naïve yet slightly sinister beauties who start life in an ordinary bourgeois garden but take to reading Baudelaire and Rimbaud and get it into their lovely heads that they smell of incense. His curious, pale, tenuous 'Triptych,' 7, has a genuinely devotional air, yet the more I look at the centre panel the more it seems—with its witches' tree and will-o'-the-wisp stars and naked women emerging from nowhere—to be the prelude to a long, wakeful night for St. Anthony.

Robert Melville



1, typical clutter of street furniture in Magdalen Street, Norwich. 2, close-up of its unrelated fascias. 3, their effect on the length of the street. 4, typical view of Magdalen Street.

TOWNSCAPE

MAGDALEN STREET

Magdalen Street has been described as Norwich's 'Colourful native quarter' but—apart from the bustle of the crowds—its charms are of the deciduous kind that result from huddles of variegated buildings of varying ages, styles and degrees of commercial modification—precisely the sort of thing that can degenerate into squalor in very short order.

However, Magdalen Street has been lucky, in the sense that it's the object of a pilot research project sponsored by the Civic Trust, due for completion this month—a project in what could be called 'street-scape reclamation,' an attempt to do something about run-down buildings, badly aligned fascias, shop-fronts increasingly out of relationship with the façades above, ill-designed and worse-placed street furniture.

The first hurdle in such a project is one of practical democracy—getting any number of independent shop-keepers to co-operate. This was achieved chiefly through energetic public-relations work on the part of the trust. Next comes the problem of variety-in-unity, or whatever you like to call the integration of differently converted and designed buildings into a satisfactory urban scene. This was taken care of by allocating groups of shops to each of five members of a panel of local architects, under the co-ordination of Misha Black and Milner Gray (of Design Research Unit). The co-ordinators prepared a manual giving general guidance on lettering and colours, and they and the architects met frequently for discussion and mutual criticism.

Clearly this is a kind of work in which it is necessary to tread warily—excess of enthusiasm or originality could result in too much being swept away; old lettering, even though it conflicts with current tastes, and old paint-work, even though it be dirty, may both deserve to be treated with respect. Magdalen Street was not yet finished when this note was written. The results must be judged on their merits—they are bound to be hotly discussed—but the pioneer experiment undertaken there can be unreservedly welcomed, at the social level as well as the aesthetic.

P.R.B.

UNIVERSITY IN BLOOMSBURY

The existence of a university precinct in Bloomsbury was recognized as long ago as the Abercrombie-Forshaw plan for London of 1943, *but its architectural form has remained a subject of doubt and misgiving* until the recent publication of the development scheme drawn up by Sir Leslie Martin and Trevor Dannatt.

Until that time, the University of London's development of the area had been the object of some alarm. The piecemeal implementation of the University's own building programme, extending northwards from Sir Charles Holden's rigidly planned central area with its monumental Senate House tower, was advancing to-

wards the equally piecemeal extension of University College, eastwards and southwards from Wilkins's fine quadrangle. There was no co-ordination between these independent encroachments on the traditional townscape pattern of Bloomsbury, and the buildings were of a bulk and generally neo-Georgian style that promised increasing offence to the *genius loci* at a rate considerably greater than their merely increasing numbers. (See, particularly, AR, October, 1957, and December, 1958, Backyard Mentality.)

The Martin-Dannatt scheme, which is illustrated as the frontispiece of this issue, page 302, endeavours to restore a comprehensible scale, capable of co-existing with surviving buildings from the original Georgian development of the area, and at the same time to create some sense of precinctual unity and character. These considerations are obviously interconnected, and deal with size, nature and location of buildings, but there is another factor that can be dealt with first—traffic.

There can be no precinctual character in an area that is punched open by through traffic routes, as Bloomsbury is at present. The development scheme proposes to restrain through traffic to a single east-west route, and a single north-south route, the former on the line of Torrington Place, the latter by way of Malet Street and Gordon Square. Ideally, it would be preferred to eliminate through traffic altogether, and these proposals are in a sense, *faute de mieux*, pending rearrangement of traffic outside the precinct. Apart from these two through roads, all other roads entering the precinct are, in the Martin-Dannatt scheme, to become service-ways or access to car-parking, much of which will go below ground; and to prevent the two through roads carving up the precinct into four isolated zones, pedestrian circulation is to be bridged over them or tunnelled under them where necessary—the project envisages the creation of a first-floor 'podium' for the higher structures which should form a natural basis for high-level footbridges and walkways.

The problem of what sort of buildings, their location and size, is obviously a complex one. Decisions had to be made about what to keep from the eighteenth century—the terrace facing Tavistock Square has been suggested for 'certain preservation'; so has the terrace at the bottom end of Gower Street, which is visually part of Bedford Square. But against the desirability of preserving the best surviving terraces must be set the need for room to manœuvre in the disposition of new blocks, particularly since comprehensive planning offers considerable freedoms that should not be sacrificed. The most important of these is the ability to view the plot-ratios of the whole area synoptically, instead of site by site. The LCC have fixed the plot-ratio at 3.5, and while building proceeds in small pieces the tendency will be for every site to be built up independently to about this figure. But proceeding comprehensively it is possible to set areas that fall below this figure against others that may now exceed it if necessary.

Armed with this technique and some general guidance as to the University's probable floor-space requirements, Sir Leslie and Mr. Dannatt have been able to distribute building volume much more flexibly than is at present the case, to keep the scale down where the existing character of the scene requires it, and to make up the floor-space provided by building higher where circumstances permit or visual considerations justify it. Acceptance of the development plan will thus ensure the end of those giant, identically-bulking blocks that have caused so much alarm by their unsympathetic scale, but the plan makes no detailed architectural proposals, and the University's attitude to the style of the new work is not clear. It would be a tragedy if the scale problem having been solved the architectural realization were to remain in the neo-Georgian doldrum of the present situation, and thus vitiate the promise of the new approach.

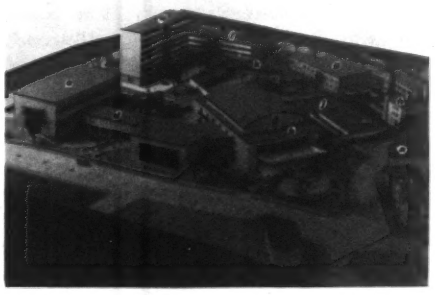
C. Forehoe

COUNTER-ATTACK

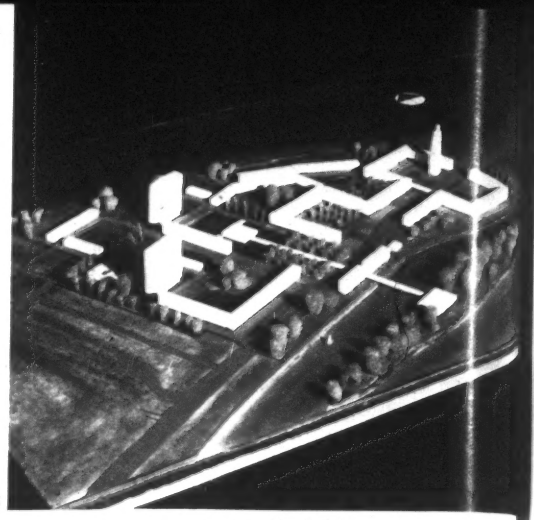
CIVIC CENTRES

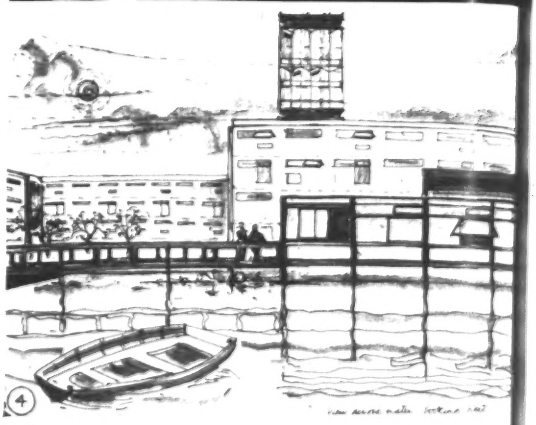
A natural pessimist is always being pleasantly surprised. Every time this writer becomes really depressed about British architects and architecture something turns up, often in the most unexpected place, to make him think that the modern movement may be growing up after all (the current alternatives seem to be general paralysis or second childhood).

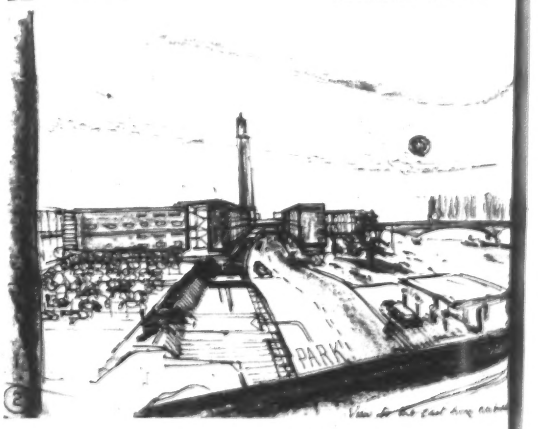
Two schemes for town centres have recently appeared: one for Poole, a civic centre in the strict sense, and one for Brentford, a new urban centre on what will largely be reclaimed industrial land. The Poole plan was prepared by the Borough Engineer, V. R. Barron, the Brentford plan by P. de Saulles, a private architect. Both have the same qualities of interlocking volumes and spaces and re-use of what is already there which are what the mathematician would call necessary conditions if redevelopment is to make sense in its complex surroundings: without them nothing.



1, model of the Poole civic centre.

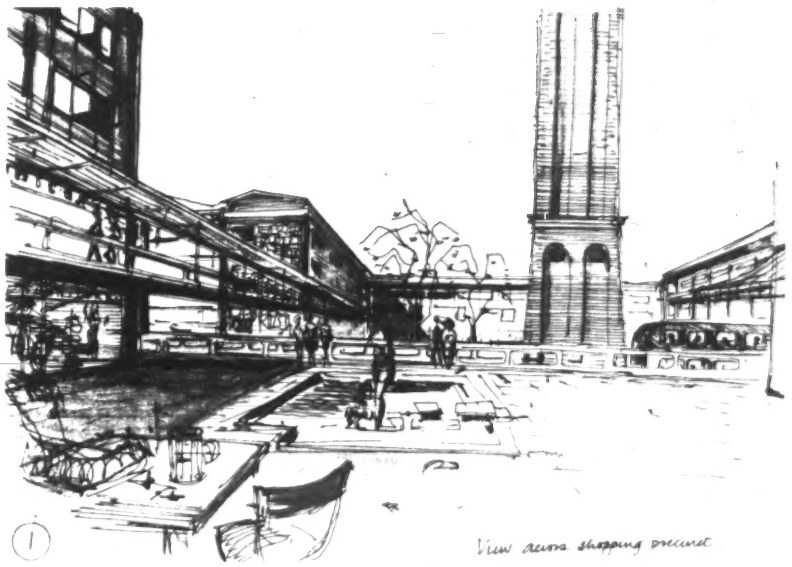






2, model of the scheme for Brentford, looking north-east. 3, view across the Thames, with the seventeen storey block of maisonettes in the background. 4, looking east from the pedestrian bridge over the main road towards Kew Bridge.

At Poole the site is a five-acre wedge behind the rather fearful 1930-Gothic municipal buildings, a. A previous condition was that the axis of the Town Hall, b, should 'run through the memorial clock tower on the Park Gates Roundabout.' We have heard that one before, but in fact the result, screened by a half-moon of trees, must surely be 1959's gentlest axis. Everything else fits in deftly and humanely: central library at the north-east end of the site, c, exhibition gallery, d, linking it with the town hall, eight-storey office block for the MOW behind, e, central clinic



5, the Brentford plan: view across the shopping precinct to the foot of the waterworks tower.

behind that, f, and law courts, g, next to the existing police station, h. In between are existing trees and two-storey car parks, j and k, which have a good chance of being attractive objects in their own right. Every pedestrian walk one can compute through and around the buildings looks as though it would be fun, and the fact that some of the elevations (which are only diagrammatic anyway) may look a bit gauche is much less important when the buildings themselves are dovetailed together.

The Brentford scheme is bigger and will probably have a much harder time of it for one reason and another. Old Brentford is a one-time country town High Street tottering into decay because the Council has rehoused everyone away from it. The present scheme, Council sponsored, adjoins it on the east and is intended as some kind of a replacement– the old street has gone too far to be saved– and a very good scheme it is too. The outstanding thing about it is that it is intended to be built very largely on land now occupied by the Metropolitan Water Board and the Gas Works. There will be no need for wholesale rehousing, though there will doubtless be wholesale writing of letters and passing of memoranda before such an un-English scheme of co-operation between authorities can come to pass; the Brentford and Chiswick Council have my heartfelt sympathy in this.

The architect has planned a truly urban sequence of squares making a brilliant re-use of the famous 'minaret' of the waterworks as a kind of campanile, approached under a pedestrian bridge which should give a most delightful 'stop it– I like it' effect; at ninety degrees to this axis another pedestrian link runs directly out to Brentford Ait, a narrow wooded islet in the Thames which has up to now remained quite unused. Both of these are axes which mean something and can be seen to mean something, not axes for their own sake. Existing reservoirs are re-used as pools, existing gas holder bottoms are made into oases in the bustle, car parks are to be gravelled and planted with trees like a French *place*. It is a dream: but it is practicable, it would seem truly Thames-side for the visitor and be a good place to live in for the Brentfordian.

In short, both Brentford and Poole are schemes that you could imagine yourself enjoying a walk in– and this is a lot more than can be said for most of today's redevelopment schemes.

Ian Nairn

BOOKS

ROMANTIC LANDSCAPE WITH CHIMNEYS

THE LANDSCAPE OF POWER. *By Sylvia Crowe. Architectural Press.* 16*s*.

There used to be people– perhaps there still are– who spoke of power stations as the cathedrals of the modern age. I'm not sure that Miss Crowe isn't sometimes guilty of muddying the difference in spiritual status between the two. Her challenge, certainly, is firm:

'If the emphasis on power proceeds beyond a point, perhaps not far distant, an unbalanced position will be reached in the life of this country where the excess of speed and mechanism, over repose and organic growth, will inevitably be reflected in an unbalanced landscape; a landscape devoted to industry at the expense of agriculture and to materialism at the expense of aesthetics, philosophy and contemplation. This country will then become an industrial estate. It may possibly be a well-ordered estate equipped with parks, but it will only represent a balanced life when seen against the background of the world as a whole. It will no longer be possible to lead a complete and satisfying life within Great Britain.'

But Miss Crowe has a weakness for *wanting* the landscape to 'reflect the nation's life.' For Miss Crowe this means that new machines should not be encased in traditional architecture, and that latticed masts suggest to her a 'scaffolding for new ideas.' But in a rather obvious sense *any* man-made landscape, any building, reflects the life of the nation which made it or built it or allows it to remain. That's just the trouble in fact. Housing estates, industrial estates, motorways and TV aerials are a perfect expression of the nation's welfare-state mind, just as the pre-war suburbs couldn't shout more clearly, 'Blow you, Jack, I'm going to leave my mess on someone else's doorstep.'

I think we've had enough expression for the moment, and we'd better leave it aside until we find something worth expressing. It might be a good idea for a change to be a step ahead instead of a step behind. Put a man into a suburban semi and only the toughest can avoid turning his front garden into a car-park decorated with Japanese cherries. Make a decent environment for people to live in, and what happens? Nothing, probably –the other forces are still too great. But at least we shan't be standing in the way of a decent way of living, and we might even make something decent to look at.

This is where Miss Crowe really comes in. Some time ago in the AR, Miss Crowe called on us all to stop sighing about the past and fight for our very lives now. Her part was to make herself into one of the most dogged challengers of contemporary commercial orthodoxy. And it is in this context that *The Landscape of Power* is so valuable. The book is full of the imaginative insight which makes Miss Crowe so good at tackling problems like the landscaping of Bradwell, full of keen observation and a fine understanding of the needs of different landscapes. But among all the helpful examination of detailed problems, the statement of two new standpoints seems to me of major importance.

First, the industrialization of a landscape is not limited to the area within the security fence. The effect of a large new industrial building may well be to create a zone of urban influence many times larger than the machine itself, and a zone of psychological influence larger still. Thus, if the Milford Haven scheme goes through, the whole of the area on both sides of the estuary from St. Ann's Head to Pembroke Dock will be lost; just as Fawley refinery has made the whole of Southampton Water into a suburban scene. Government departments and industrial combines must no longer be allowed to get away with the claim that they are occupying only so many acres. It's the square miles of influence which count (especially, of course, since expansion is so easy under the 'spoiled already' argument).

Second, the new machines are so big that the attempt to humanize them is basically wrong. They can only be accepted as a complete contrast with a humanized landscape, unsullied by any attempt to tamper with their scale by fancy human

dressings. Just as the occasional car doesn't destroy the intense stillness of real country, because it is so total a foreigner, so a TV mast or a cooling tower is tolerable only while it remains impersonal. We cannot make them into fine humanized objects like the great Derbyshire mills—they are now beyond our own scale. What *this* may mean in human terms it's alarming to think; but anyone who doubts the visual point might compare the 'artist's impression' of Dounreay that Miss Crowe prints with the photograph of the real thing which appeared in the AR in September, 1958.

The quietness with which Miss Crowe makes these two points may blind the casual reader to the momentousness of the change of outlook she proposes. Taken together they represent a huge challenge to the current orthodoxy of industrial siting, an entirely new approach to the problem of letting the landscape have its say, and finding out what it can take.

Speaking as a member of a youngish generation I slightly resent being informed that 'It may be that the younger generation can accept the superimposed grid of structure which represents cosmic forces harnessed to everyday life, just as they can accept a background of perpetual noise.' If it can, so much the worse for it and the country. The standard of living we have to keep up is much more than an economic one, and personally I'm not inclined to risk it.

Andor Gomme

BUILDINGS OF THE NORTH

SCANDINAVIAN ARCHITECTURE. *By Thomas Paulsson. Leonard Hill (Books) Ltd., London.* 42*s.*

This is the first complete history of Scandinavian architecture to have been published either in English or in any of the Scandinavian languages. The author, son of Gregor Paulsson and well known in Sweden as an architectural critic, writer and broadcaster, reveals this surprising fact in his preface. He adds that in 'the great classic work of Banister Fletcher the Nordic countries were not even included.' His book therefore deserves a special welcome in spite of the failure of his publishers to ensure that the translation was idiomatic. (On one page it is incomprehensible.) The photographs, generous in quantity, are sometimes inadequate too.

But can it be said that there is such a thing as a Scandinavian architecture? Though today the four countries are distinct realms, their historical, geographical, linguistic and cultural ties have been so tightly knotted together in the past that the answer, with some qualifications which the author makes clear, is yes. He is concerned to show how particular styles and types of buildings and towns were created by the social-economic conditions of each period. Advisedly he subtitles his work: 'Buildings *and Society* (my italics) in Denmark, Finland, Norway and Sweden from the Iron Age until Today.'

The influences (and indeed many of the architects) through the centuries came from the rest of Europe, in particular from England in mediaeval times and after the Reformation from Holland, but more space might have been given to the indigenous and delightful timber vernacular of the peasant cultures. The nationalistic phase of the early part of this century is dismissed rather curtly; the Stockholm City Hall, for instance, is given only a line or two and no picture. That masterpiece of a fairy-tale, climax of the handicraft movement, may be in disfavour today but within its own terms it is a landmark and a work of genius. However, the author is not greatly concerned with aesthetic judgments (nor with structural techniques). His approach is austere and the main interest of his book lies in his intelligent perceptions of how historical and social forces conditioned the buildings of the north.

Scandinavia is not plagued as we are with overcrowding, the effects of *laissez-faire* and with Subtopia, and Mr. Paulsson appears to be content with the present social conditions of the Scandinavian countries and with the architecture they produce. He reveals no personal hopes or visions for the future, but he does conclude with an important statement: 'The large city, as well as the small, exists to a great extent in the fluctuating play of a variety of forces and these are not only economic, or social, or technical. Other forces are those only partly calculable valuations that people make of their surroundings, their world. These valuations and forces are not yet fully comprehended.' Can they ever be? Or rather, can they ever be fully and rationally expressed in words? All we can do is to question the prevailing assumptions. But how many architects, town-planners, sociologists, economists or even writers like Paulsson, who take a broader view than most, are doing so today?

Incidentally, is it true to say that Art Nouveau was 'a style which within art was inspired by the painter Seurat'? A good case has been made out that the progenitor in painting was William Blake.

Eric de Maré

MILAN BUILDS

NUOVE ARCHITETTURE A MILANO. *By Roberto Aloi. Milan, Hoepli* 1958, 900 *lira.*

This book deals with buildings in Milan erected during the last six or seven years. It is a sequel to Piero Bottoni's Edifici Moderni in Milano, 1954, but while Bottoni's book is in pocket format and consists of itineraries, this new book is quarto and discusses building after building in order of types, with five to ten pages for every building including plans, technical details, etc.

One is impressed by the large volume of building going on at Milan, and the large number of architects participating. Of the best known people little is illustrated: nothing by Albini, two by B.B.P.R., two by Figini & Pollini, two by Gardella, two by Nizzoli. There is evidently a great deal of talent about at Milan and an even greater deal of ingenuity. The delight in novelty exceeds what even the most fanciful architects over here would venture to do. Of the Mies-Eiermann style, hardly anything appears. Architects play with chequer-board patterns of windows and even more random fenestration, and plans are not infrequently butchered to fit facades. Yet, what the book contains is extremely stimulating. The boldest three-dimensional experiments are once again Luigi Moretti's. Illustrations of the new Pirelli building by Gio Ponti and Nervi are included although the building is still incomplete. It promises to be of great beauty and it is obviously quite unmannered. Its prow shape gives it elegance and its qualities are already beginning to have an effect on other skyscrapers in Milan and outside.

N.P.

Shorter Notices

EARLY MUSLIM ARCHITECTURE. *By K. A. C. Creswell. Penguin,* 8*s.*6*d.*

The reputation of Professor Creswell (who will soon be eighty years old) in the field of Muslim architecture depends on a series of massive volumes that appeared in Oxford in the Thirties—academic publishing at its most lavish and opulent. The present Penguin volume is a drastic condensation of the first two of them, but it is far from being a 'cut version,' and includes information that was not available at the time the older volumes went to print—fragments of wood from the Nilometer at Quairawan are recorded as smelling of cedar, and having been sent to Kew for analysis, in the first version: the new edition records that Kew identified them as *Ficus Sycamoris*, and the earlier guess that the wood came from the Lebanon has been dropped.

There is something very Creswellian about this revision—he must be one of the most practical-minded historians that any school of architecture has been blessed with. He uses his imagination to get the available facts into comprehensible and creditable patterns, not to spin theories of origins or influences: the book is about buildings. The first paragraph concerns the dwellings of the primitive Arabians, the second plunges straight into the problem of the rebuilding of the Kaa'ba in the thirty-fifth year of the Prophet, and the rest of the book is strictly about bricks and mortar. For those with any interest at all in Muslim history down to about 270 H. it is required reading, obviously, but those with purely architectural interests will also find here the best introduction there is to the stones of Islam—rarely has the application of luminous commonsense to the facts of structure and the forms of planning done so much to reveal the mind of an architecture.

Michel Santiago

NEW WAYS OF BUILDING. *Edited by Eric de Maré. Third edition, Architectural Press Ltd.,* 45*s.*

This useful book comes to us in its third edition, thoroughly re-edited and much enlarged. All sections have had something substantial done to them, but that on steel has been completely re-written by a new and refreshingly lucid author, Dr. H. Gottfeldt. Among the other new additions in the text, mention must be made of Philip Reece's good account of recent TDA work on timber joints and W. B. McKay's masterly presentation of calculated brickwork. Brian Grant has virtually re-written the section on light metals, and K. Cheesman has much expanded that on glass. All these and the photographs (of which more are new than old) establish the work's unquestionable up-to-dateness.

L.W.

SKILL

PITCHED ROOF COVERINGS

by Peter Whiteley

2, unit coverings—*continued*

Last month Peter Whiteley began his series of articles on pitched roof coverings by considering the physical properties of slates and tiles. This month we publish comparative cost tables relating to slates (both natural and manufactured), shingles and concrete tiles. Next month we will complete this section by publishing the cost tables relating to clay tiles and, when the series is finished, readers will have a complete cost comparison of virtually all the chief pitched roof coverings available in this country.

In the first of the cost columns, the cost is given ex-works, including trade discounts and transport cost within 100 miles of the supplier. The next column, B, gives the cost of the materials when laid, including battens, and when required, nails; including also an allowance for waste, for hips, verges, ridges and soakers, and for profit and overheads. The third column, C (which is the most interesting of all) gives the cost per square, on plan, of the total structure, including the ceiling. To make the comparison still more realistic, we include also sufficient insulation to bring the 'U' value of the roof down to a standard value of 0.18.

proprietary name and description	size	weight per square laid, in cwts.	recommended minimum pitch of roof (effective)	colour and finish	(a) cost material ex works per square	(b) cost laid per square (material only)	(c) cost per square on plan of total structure including ceiling and insulation	remarks
NATURAL SLATE (including stone)								
THE BROUGHTON MOOR GREEN SLATE QUARRIES LTD., Coniston, Lancashire								
					£ s. d.	£ s. d.	£ s. d.	
Broughton Moor Westmorland Green Slates	random widths (proportionate)		30	three named colours; (permanent) coarse grained texture				available also in silver-grey-green and mixed shades
olive green, bests	18 in. to 9 in. long	9½ cwt.			12 2 0	15 18 0	43 17 0	qualities: bests, seconds, thirds, special peggies, second peggies. fixing 2 nails/slate
	20 in. to 12 in. long				14 19 0	18 13 0	46 15 0	
seconds	18 in. to 12 in. long	11½ cwt.			11 16 0	15 14 0	43 13 0	'Bro-Moor' reconstructed slate ridging at 8s. 6d. per ft. run
light sea green, bests	18 in. to 9 in. long	9½ cwt.			14 14 0	18 10 0	46 14 0	
	20 in. to 12 in. long				17 12 0	21 10 0	49 17 6	
seconds	20 in. to 12 in. long	11½ cwt.			17 5 0	21 4 0	49 9 0	
THE BURLINGTON SLATE QUARRIES LTD., Kirkby-in-Furness, Lancashire								
Burlington blue-grey slates			30	blue-grey (permanent)				available in 7 numbered qualities
best pattern no. 1	any size, length and width	8 cwt.		medium to smooth texture	11 16 0	15 12 0	43 11 0	fixing 2 nails/slate. mainly random length slates in each particular quality, unless specially ordered
best sized no. 2	any length up to 25 in. by proportionate widths	8 cwt.			10 8 0	14 7 0	42 16 0	
best mixed no. 4	lengths 14 in. to 22 in. by proportionate widths	8 cwt.			9 1 0	13 11 0	41 10 0	
FREEMAN & SON, The Camp, Stroud, Gloucestershire								
Cotswold stone tiling	maximum length 24 in. random widths 6 in. to 24 in.	16 cwt. lap 4 in. at eaves to 1½ in. at ridge	45	Cotswold stone slabs	—	approx. £32	60 10 0	
J. W. GREAVES & SONS LTD., Portmadoc, Caernarvonshire. (Mines at Blaenau-Ffestiniog)								
'old vein' and 'deep vein' Portmadoc slates	24 in. by 14 in.	5 cwt.	26½ with 4 in. lap	blue-grey (permanent) medium rough texture	12 10 0	17 9 0	43 7 0	available in 4 classes
	16 in. by 10 in.	4¾ cwt.			9 14 0	14 15 0	40 13 0	best old and deep vein, mediums, strong deep vein and seconds, in full size range 26 in. by 16 in. to 10 in. by 6 in.
best old and deep vein, class 1	10 in. by 8 in.	5½ cwt.			5 17 0	11 10 0	37 8 0	
strong deep vein class 3	24 in. by 14 in.	5 cwt.			11 2 0	15 11 0	41 9 0	
	16 in. by 10 in.	5 cwt.			8 16 0	13 16 0	39 14 0	fixing 2 nails/slate
	10 in. by 8 in.	7 cwt.			5 12 0	11 9 0	37 7 0	

proprietary name and description	size	weight per square laid, in cwts.	recommended minimum pitch of roof (effective)	colour and finish	(a) cost material ex works per square	(b) cost laid per square (material only)	(c) cost per square on plan of total structure including ceiling and insulation	remarks
THE OAKELEY SLATE QUARRIES CO. LTD., 4, Old Mitre Court, Fleet Street, E.C.4. (Mines at Blaenau-Ffestiniog)								
					£ s. d.	£ s. d.	£ s. d.	
Ffestiniog slates best old vein mediums strongs extra strongs	24 in. by 14 in. down to 10 in. by 6 in.	5 cwt. (b.o.Veins) to 7 (extra strongs) in large sizes 5¾ cwt. to 8 cwt. in small sizes	25° with 4 in. lap	blue-grey (permanent), smooth in best old veins to coarse and rough extra strongs	£12 for 24 in., 22 in. and 20 in. (length) in b.o.v. down to £5 for 12 in. and 10 in. in extra strongs	18 16 0 13 12 0	46 15 0 41 11 0	available in full B.S. size range fixing 2 nails slate, centre nailing
(MANUFACTURED SLATE) RECONSTRUCTED STONE AND CONCRETE								
ROBERT ABRAHAM LTD., 43, Bankhall Street, Liverpool 20, and Hawes, Yorkshire								
'Hardrow' concrete slates	28 in. by 18 in. by 1/16 in. 18 in. by 18 in. by 9/16 in. 18 in. by 12 in. by 9/16 in.	18 cwt. 14½ cwt. 14½ cwt.	15° (4 in. lap) 20° (3 in. lap) 25° (3 in. lap)	obtainable in colours: yellow stone orange light grey dark grey brown thatch green surface texture rough and irregular colour approximately one-seventh of total thickness	5 0 0 4 2 6 4 2 6	11 3 0 9 5 0 9 11 0	39 2 0 37 4 0 37 10 0	slates have been laid for 30 years — and have shown no signs of deterioration or colour fading manufacturers strongly recommend hanging by 2 nails (at head of slate) (copper or galvanized) over the batten for all pitches up to 40°; which together with internal fillet pointing with hair lime mortar on vertical and horizontal joints only (and the proportions of the slates) enables very low pitches to be satisfactory
COTSWOLD DALE STONE CO. LTD., Magdalen Works, Tetbury, Gloucestershire								
reproduction Cotswold stone slates	lengths 20 in. to 6 in. in 2 in. decrements widths 7 in., 9 in., 11 in. and 13 in.	18 cwt.	45°	Cotswold stone aggregate, granular finish which weathers in similar way to natural stone in rural atmosphere	9 5 0	15 16 0	43 15 0	intended to be laid in diminishing courses and random widths single nailed slates, every third course to be fixed. Extra care needed in laying because brittle when 'green'
REDLAND TILES LTD., Castle Gate, Reigate, Surrey								
'Stonewold' interlocking slates (concrete)	17 in. by 15 in.	9½ cwt.	22½° (to 45° maximum)	obtainable in lichen green, moorland stone slate grey integrally coloured concrete permanency claimed	5 9 4	6 13 0	32 11 0	held by nibs — no nailing required fully interlocking side lap; partially interlocking head three angles of ridge and hip tiles to suit most pitches between 22½° and 45° vertical joints up the roof are broken as in stretcher bond
(MANUFACTURED SLATE) BITUMINOUS SLATE								
THE RUBEROID COMPANY LTD., Commonwealth House, 1-19, New Oxford Street, W.C.1								
ruberoid strip slates, square butt	strips of 4 in one piece 40 in. by 12 in. visible area of each slate when laid 9½ in. by 5 in. (4½ in. on exposed sites)	1¾ cwt. (approximately)	30°	mineral granule finish in Westmorland slate green, venetian red, Delabole slate grey, Bangor slate blue also in asbestos base felt in grey	grey, green, blue, £4 red £4 10s. 0d. grey (asbestos) £5 18s. 0d.	5 18 0 6 12 0 8 6 0	28 7 0 29 1 0 30 15 0	a minimum maintenance free life of 25 years can be expected of Ruberoid slates flexible and easy to lay; fixed by galvanized clout nails on ¾ in. (min.) tongued and grooved boarding
octagonal	strips of 4 in one piece 40 in. by 11 in. visible area when laid approximately 9½ in. by 4 in.	1½ cwt.	30°	colours: Westmorland slate green, venetian red, Delabole slate grey	grey, green £3 13s. 6d. red £4 3s. 0d	5 13 0 6 2 0	28 2 0 28 11 0	

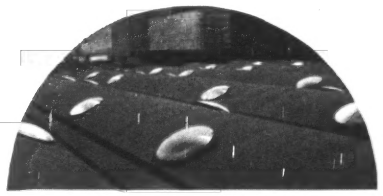
[continued on page 363

continued from page 362]

proprietary name and description	size	weight per square laid, in cwts.	recommended minimum pitch of roof (effective)	colour and finish	(a) cost material ex works per square	(b) cost laid per square (material only)	(c) cost per square on plan of total structure including ceiling and insulation	remarks
(MANUFACTURED SLATE) ASBESTOS CEMENT SLATE								
THE UNIVERSAL ASBESTOS MANUFACTURING CO. LTD., Tolpits, Watford, Hertfordshire								
					£ s. d.	£ s. d.	£ s. d.	
Hendon purlin tiles	2 ft. 1 in. by 6 ft. 4 in. long (effective cover 6 ft.)			natural a.-c. grey, can be painted with a.-c. paint in appearance (form only) like a fully interlocking tile	11 0 0	13 5 0	37 7 6	should be laid from end to end of each course, lapping over on eaves undercourse and secured at each end of every tile through the valley corrugations which act as a built-in purlin; each tile will be exposed 10½ in. to the weather
pantiles	16 in. by 13½ in.		40°	natural a.-c. grey in form appearance like a traditional English pantile	7 7 6	10 3 0	34 5 6	no interlock; 4 in. head lap, 2 in. side lap double nailed (galvanized) at head of each tile. Closed end eaves tiles; and double roll available
TURNERS ASBESTOS CEMENT CO. LTD., Trafford Park, Manchester, 17								
'Poilite' a.-c. slates	'Duchess' 24 in. by 12 in., 4 in. lap recommended	approximately 4 cwt.	30°	stored surface finish in russet, blue-grey and natural a.-c. grey	7 10 0 approximately for russet and blue (in 2 ton load min.)	9 18 0	34 1 0	fixed on the straight cover system by 2 copper nails (at centre) and one copper disc rivet at tail of each slate; which gives good resistance to wind lifting
SHINGLES								
W. H. COLT LTD., Surbiton, Surrey								
edgegrain Canadian western red cedar shingles	16 in. long by 4 in. to 12 in. wide (random)	1¼ cwt. (at 5 in. gauge)	30° normal with 6 in. lap and 5 in. gauge can be reduced to 20° with 8½ in. lap and 3¾ in. gauge	after a few months exposure weathers to a permanent silver-grey	7 4 0	11 10 0	32 8 0	sarking and boarding are unnecessary; shingles are twice nailed (at centre) to battens. Provide a very weather tight roof and have a good insulation value when laid, approximate 'u' value .3
CONCRETE TILES								
THE MARLEY TILE CO. LTD., London Road, Riverhead, Sevenoaks, Kent								
plain: 1 flat, 2 cross-cambered 3 Westwold	10½ in. by 6½ in.	14¼ cwt. (at 3 in. lap)	40°	fired granule finish in following colours: light, multi and dark reds, antique, marigold, brick red, dapple green, Cotswold and slate greys, blended dark red, full, dark, russet and golden greens	4 11 0	8 6 6	36 5 6	fixing 2 nails per tile every fifth course. manufactured to B.S.S. 473/1956. all types of tile guaranteed against lamination and decay for 50 years
'Ludlow' interlocking (sides only)	15 in. by 9 in.	8 cwt. (at 3 in. lap)	30°	as above except for multi-red	3 8 0	5 17 0	31 15 0	fixing 1 nail per tile every course. manufactured to B.S.S. 555/1956
'Yeoman' interlocking double Roman	16¼ in. by 13 in.	9 cwt. (at 3 in. lap)	30°	as above	3 8 0	6 5 0	32 3 0	as above
'Anglia' pantiles	15 in. by 9 in.	8 cwt. (at 3 in. lap)	30°	as above	3 13 0	6 12 0	32 10 0	as above

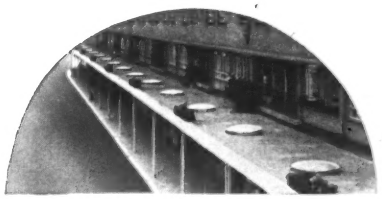
proprietary name and description	size	weight per square laid, in cwts.	recommended minimum pitch of roof (effective)	colour and finish	(a) cost material ex works per square	(b) cost laid per square (material only)	(c) cost per square on plan of total structure including ceiling and insulation	remarks
THE PRENTON BRICK & TILE CO. LTD., Prenton Dell Road, Birkenhead								
Broseley plain tiles	10½ in. by 6½ in.	12 cwt.	35°	integral colour smooth finish; colours: antique gold, gold, red, grey	3 13 9	7 9 0	35 8 0	
single interlocking	15 in. by 9 in.	9 cwt.	30°	as above	2 14 6	4 18 0	32 17 0	
REDLAND TILES LTD., Castle Gate, Reigate, Surrey								
Redland '49' interlocking (single lap)	15 in. by 9 in.	8 cwt.	30° (with 4 in. lap)	Fired granule finish in colours: green, brown, antique, red, straw, slate grey, silver grey, special Cotswold	2 9 0	3 19 0	31 10 0	fixing, each tile in every alternate course to be nailed (one). all types of tile are guaranteed for 50 years against lamination and decay
Redland '50' Roman interlocking (single lap)	16½ in. by 13 in.	8 cwt.	35°	as above	2 10 6	4 1 0	31 11 6	fixing, each tile twice nailed every third course. Perspex rooflight '50' available to lay with and match '50' Roman tiles
Redland '51' interlocking (single lap)	15 in. by 9 in.	8 cwt.	33½°	as above	2 9 0	3 19 0	31 10 0	fixing, as above
Redland '52'	16½ in. by 11 in.	8½ cwt.	30°	as above	2 19 6	4 11 0	32 10 6	manufactured to B.S.S. 550 1956. fixing, each tile in every alternate tile once nailed
ESSEX TILE & CONCRETE CO. LTD., Selinds Lane, Whalebone Lane South, Dagenham, Essex								
plain tile (cross cambered)	10½ in. by 6½ in.	—	40°	Essex '54' finish smooth, integral colours: tile red, marigold, black, brown, buff	4 10 0	8 5 0	36 4 0	also available in sand-faced finish only, at slightly less cost; also sand-faced Essex finish in three colours of greens at 12% to 25% more cost. Guaranteed for 50 years against lamination and decay, and against colour fading (except greens)
				sandfaced on Essex '54' finish base, same colours	5 3 0	8 19 0	36 18 0	
double interlocking (sides only)	15 in. by 9 in.	—	35°	Essex '54' finish	2 15 0	4 17 0	32 16 0	as above.
				sandfaced on Essex '54' finish	3 1 0	5 15 0	33 14 0	
English pantiles	15 in. by 9 in.	—	35°	Essex '54' finish only, in the above colours	3 15 0	6 18 0	34 7 0	
LEIGHTON BUZZARD TILES LTD., 158-160, City Road, London, E.C.1								
Bedfordshire plain	10½ in. by 6½ in.	13½ cwt. (with 3 in. lap)	40°	fired granule finish in colours: red, dark red, dark brown, dun, rustic, Cotswold stone, Cotswold 'B' and 'C,' grey-green and marigold	3 11 0	7 6 0	35 0 0	fixing 2 nails per tile every fifth course, on steeper pitches than 40° nailed every third course. manufactured to B.S.S. 473/1056. all types guaranteed for 50 years against lamination and decay
'Leighton' interlocking (sides only)	15 in. by 9 in.	7¼ cwt. (with 3 in. lap)	33°	as above	2 5 0	4 2 0	32 1 0	manufactured to B.S.S. 550/1956. fixing, 1 nail per tile each alternate course
'Grovebury' interlocking double pantile	16½ in. by 13 in.	7¼ cwt. (with 3 in. lap)	30°	as above	2 14 6	4 16 0	32 15 0	manufactured to B.S.S. 550/1956. fixing, 2 nails per tile every second or third course according to conditions

[continued on page 366



GENERATING STATION
C. E. G. B. Northfleet

TRAINING CENTRE
British Railways, Crewe

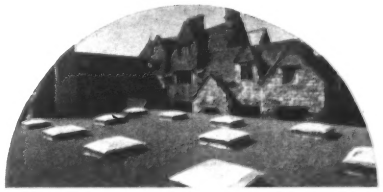


COLONNADE
Hemel Hempstead New Town

NATURAL OVERHEAD

TRANSPORT DEPOT
Wigan Corporation

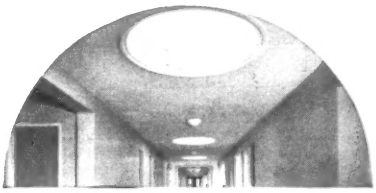
FIRE STATION
Wythenshawe, Manchester



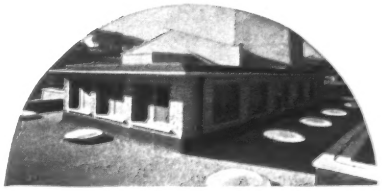
HOTEL
Lygon Arms, Broadway, Worcs.

LIGHTING...

FACTORY
Twist Drill Co., Ltd., Sheffield



SCHOOL
Houghton Sec. Modern, Darlington



CREMATORIUM
Huddersfield Corporation

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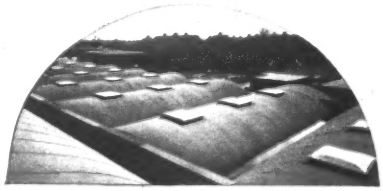
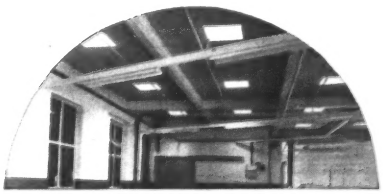


ENGINEERS' STORES
Y.E.B., Grimsby



WOOLLEN MILL
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OIL REFINERY
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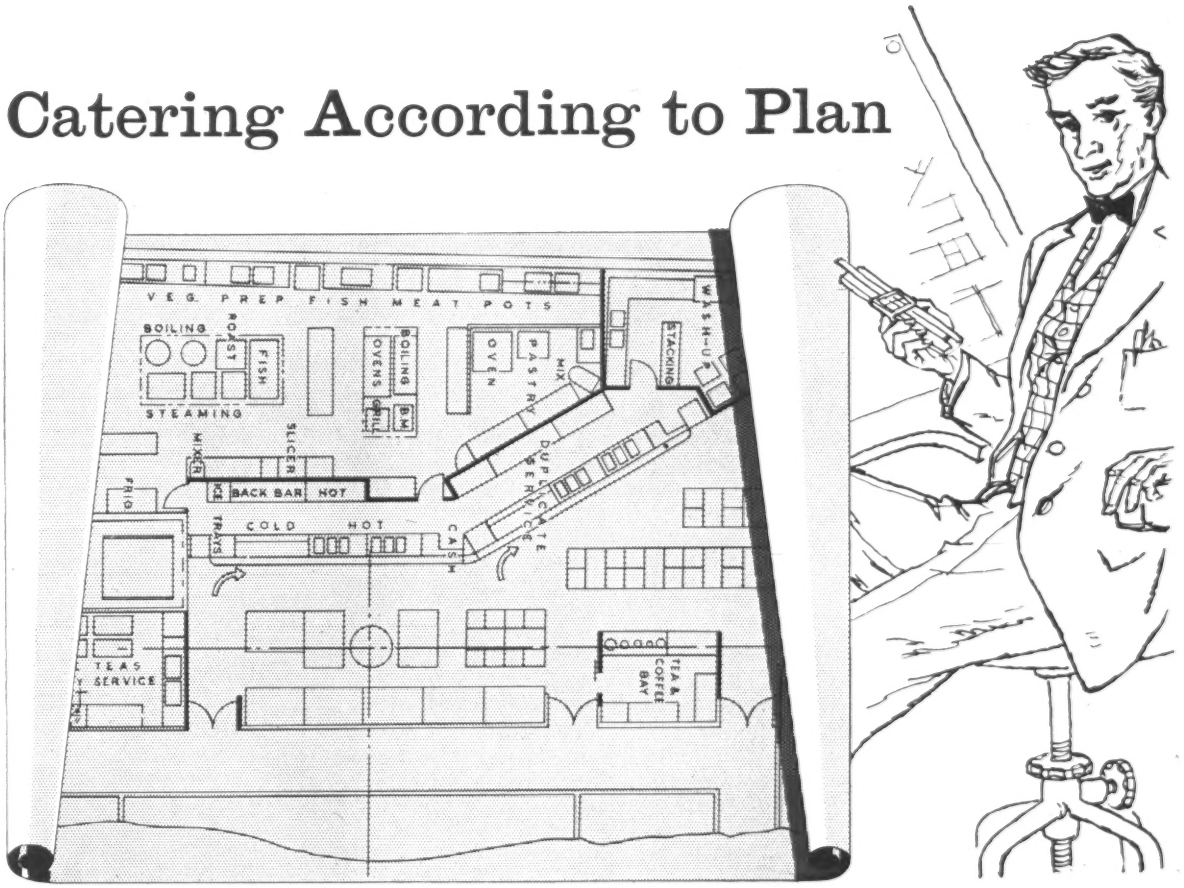
GLASS BENDERS FOR OVER A CENTURY

proprietary name and description	size	weight per square laid, in cwts.	recommended minimum pitch of roof (effective)	colour and finish	(a) cost material ex works per square	(b) cost laid per square (material only)	(c) cost per square on plan of total structure including ceiling and insulation	remarks
CRENDON CONCRETE CO. LTD., Thame Road, Long Crendon, Aylesbury, Bucks.								
					£ s. d.	£ s. d.	£ s. d.	
plain Broseley (cross cambered)	10½ in. by 6½ in.	15 cwt. approximately (with 3½ in. lap)	35°	Fired granule finish in colours: red, autumn, plum, nigger, Cotswold grey, Cotswold yellow, green	4 7 0	8 2 0	36 1 0	manufactured to B.S.S. 473/1956 Guaranteed for 50 years against lamination and decay
pantiles	15 in. by 9 in.	8 cwt.	30°	as above	3 8 0	6 10 0	32 8 0	manufactured to B.S.S. 550/1956
ANCHOR BUILDING PRODUCTS LTD., Broomhills Road, Leighton Buzzard, Bedfordshire								
'Ancona' single Roman (hand made)	17 in. by 11¾ in.	10½ cwt.	30°	fired granule finish to concrete in light and dark red, dark brown, Cotswold grey	4 0 0	7 4 0	35 3 0	guaranteed for 50 years against lamination and decay
'Rotunda' double Roman (hand made)	17¼ in. by 14 in.	11 cwt.	30°		2 15 0	4 13 0	32 11 0	as above

Catering According to Plan



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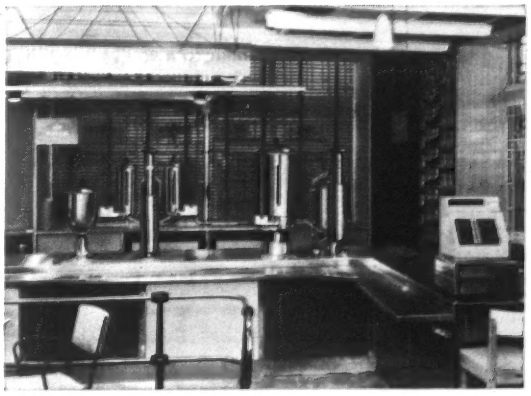

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THE INDUSTRY

Thick Hardboard

Before the war one could get ¼ in. thick Scandinavian hardboard, but they have not been generally available since. Now the Bowater organization is to produce this thickness in both standard and tempered grades. The advantages of such a board is, of course, that fixings can be at wider spacings; indeed it can be used without support at all for some purposes. For example, sliding cupboard doors of normal height, where a shaped batten down one edge can serve as both stiffener and door pull. The makers suggest studding at 24-in. centres when used as cladding and they also make the board in 2 ft. and 2 ft. 6 in. widths for ease of hoisting through roof traps to make attic flooring. Other sizes are: 8 ft. by 5 ft., 6 ft. by 4 ft. and 9 ft. by 4 ft. Price: per ft. sup. 8½d. for the standard and 11d. for the tempered grades (approximately).
Bowaters Ltd., Knightsbridge.

Another School System

With the false dawn of 1940's style prefabrication over we are now well into the morning of the technically sound 'kit of parts' concept of architecture—for schools. Herts began (with Hills), the MOE continued (with Hills, Brockhouse and Intergrid), and now the industry is beginning to work under its own steam (fired by official ideas). John Laing and Son have produced a brochure for their system 'Laingspan' — a prestressed system of small columns and deep open web beams, similar to other proprietary systems and developed 'in association with the MOE with A. J. Harris as engineer.' Columns are all 6 in. by 6 in., beams 20 in. deep and up to 33 ft. 4 in. span. The system will go up to four storeys and is, of course, based on the 40-in. module.

The brochure gives fairly full technical information, although some of the drawings need to be puzzled over. Diagrams suggesting ways in which the system can deal with school planning problems, staircase positions and so on would have been useful, likewise some indication of cost.
John Laing and Son Ltd., London, N.W.7.

CONTRACTORS etc

Kingsdale School, Dulwich. Designed by the Chief Architect's Department of the LCC. *General contractors:* Lavender McMillan (Contractors) Ltd. *Sub-contractors: Roofing and asphalt:* Pilkingtons Asphalte Ltd. *Concrete blocks (cellular):* Broad & Co. *Artificial stone:* Qualcrete Ltd. *Structural steel and glazed cladding:* Hills (West Bromwich) Ltd. *Glazed cladding (ground floor, teaching block):* Williams & Williams Ltd. *Plywood infills, panels:* Venesta Ltd. *Wood wool slabs:* Thermacoust Ltd. *Tiles:* Carter & Co. (London) Ltd. *Plaster partitions:* Unit Construction Co. *Glass:* Pilkington Bros. Ltd. *Woodblock flooring:* Vigers Bros. Ltd. *Central heating and ventilating:* Ellis (Kensington) Ltd. *Boilers:* Ideal Boilers & Radiators Ltd. *Electric wiring:* Holliday Hall Son & Stinson Ltd. *Light fittings:* Hume Atkins & Co.; Merchant Adventurers Ltd.; Frederick Thomas & Son; Troughton & Young (Lighting) Ltd. *Plumbing:* Building Engineering Constructors Ltd. *Sanitary fittings:* T. A. Harris Ltd. *Stairtreads:* Modular Concrete Co. *Door furniture:* H. & C. Davis Ltd. *Metal windows:* Hills (West Bromwich); Williams & Williams. *Bells:* Holliday & Son (Electrical) Ltd. *Solid doors:* Manor Joinery Works Ltd. *Joinery:* Humphreys Ltd. *Folding doors:* Esavian Ltd. *Sunblinds:* S. C. Williams & Co. *Stage curtains:* Gerald Holtom. *Plastering:* Alan Milne Ltd. *Plaster ceiling panels:* Claridge's (Putney) Ltd. *Metalwork:* East Sussex Engineering Co. *Locker units:* Custom Built Ltd. *Cork floors:* Marley Tile Co. *Wallpapers:* Arthur Sanderson & Sons Ltd.; Kerridge (Cambridge) Ltd. *Cloakroom fittings:* Childs Constantine Co. *Clocks:* Gent & Co. *Lettering:* Drakard & Humble Ltd.

Garratt Green School, Wandsworth. Designed by the Architect's Department of the LCC. *General contractors:* Messrs. Tersons Ltd. *Sub-contractors: Pile foundations:* Soil Mechanics Ltd. *Plastic letters and numerals:* Drakard & Humble Ltd. *Exposed aggregate shuttering:* Tercrete Ltd. *Laminated timber beams:* Rainham Timber Engineering Co. *Cork tile flooring:* H. E. Richards (Flooring) Ltd. *Wood block and strip flooring:* Vigers Bros. Ltd. *Suspended ceilings:* Sundeala Board Co. *Goods hoist:* James Ritchie & Sons Ltd. *Heating, gas, water and ventilation services:* Norris Warming Co. *Electrical installation:* Thorpe & Thorpe Ltd. *Ironmongery:* Childs Constantine & Co. *Swimming bath filtration and chlorination plant:* Bell Bros. (Manchester 1927) Ltd. *Stone paving:* Liverpool Artificial Stone Co. *Granolithic paving, precast concrete fountain head:* Kendells Flooring Ltd. *Hardwood handrail, treads and risers and sliding folding screens to assembly hall:* Samuel Elliott & Sons Ltd. *Structural steelwork and balustrade and gates:* R. Smith (Horley) Ltd. *Terrazzo work:* Mosaic & Terrazzo Precast (Staines) Ltd. *Aerial mast:* St. Peters Metal Works Ltd. *Dais and display case in assembly hall:* Cookes (Finsbury) Ltd. *Frostproof tiling:* A. H. Herbert & Co. *Diving boards:* Gilliam & Co. *Patent glazing and roof lights:* Faulkner Greene & Co. *Sanitary fittings:* Adamsez Ltd. *Timber windows and doors:* Rippers Ltd. *Metal opening sashes:* Crittalls Manufacturing Co. *Exposed aggregate slabbing:* Stent Precast Concrete Ltd. *Bricks:* Sussex & Dorking Brick Co. *Structural steel:* Rom River Co. *Glass:* Aygee Ltd. *Waterproofing materials:* Tretol Ltd. *Boilers:* Ideal Boilers & Radiators Ltd. *Light fittings:* Hume Atkins & Co.; Frederick Thomas & Co.; General Electric Co. *Casements:* A. Beanes & Co. *Plastering:* Whetstone Ltd. *Tiling:* Payne & Baker Ltd. *Wallpapers:* Wallpaper Manufacturers Ltd.; John Line & Sons Ltd. *Clocks:* Gent & Co. *Sliding door gear:* P. C. Henderson Ltd.

Motor Showrooms at Poole. *Architects:* Farmer and Dark. *General contractors:* John H. Wilson Ltd. *Sub-contractors: Tiled wall panel:* Carter & Co. *Electrical installations:* Aish & Co. *Thermoplastic tile flooring:* Southern Tiling Ltd. *Metal decking:* Robertson Thain Ltd. *Wood block flooring:* Sherry & Haycock Ltd. *Structural st e'work:* Metal Construc-

[continued on page 370

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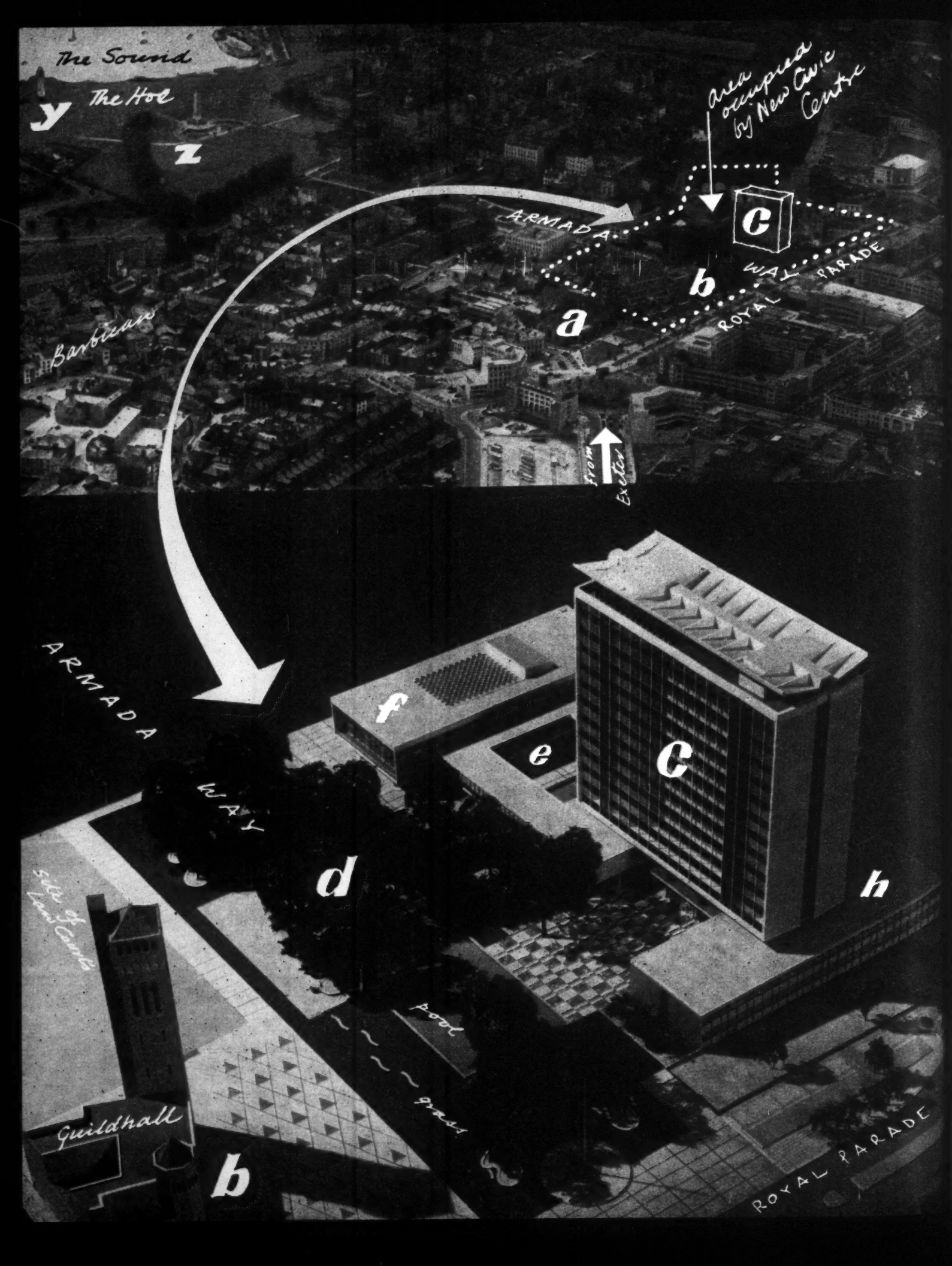
tions Ltd. *Aluminium fascia:* Willis Ltd. *Steel sliding folding doors:* Bolton Gate Co. *Aluminium sliding folding doors:* Ford, Vincent & Co. *Lettering:* Ward & Co. *Terrazzo:* A. Cristofoli & Sons. *Patent glazing:* Standard Glazing Co. *Heating:* James Combe & Son Ltd. *Metal doors and windows:* John Thompson Beacon Windows Ltd. *Stores construction:* Dexjon Ltd. *Clothes locker baskets:* James Seiber Equipment Ltd. *Paints:* Farrow & Ball Ltd.; Vitretex Ltd.; Tretol Ltd. *Lighting equipment:* Ekco-Ensign Electric Ltd. *Clocks:* Baume & Co. *Bricks:* Chas. Mitchell & Sons Ltd. *Acoustic ceilings:* Celotex Ltd. *Roofing felt:* Ragusa Asphalte Co. *Roofing slabs:* Marley Tile Co. *Landscaping:* Henry & Henry.

Royal Observatory at Herstmonceux. *Architect:* Brian O'Rorke. *Equatorial group: General contractors:* Charles R. Price. *Ironmongery:* Dryad Metal Works Ltd. *Metal door frames:* J. H. Sankey & Son Ltd. *Sanitary fittings:* Adamsez Ltd. *Flush doors:* John Sadd & Sons Ltd. *Access panels:* Saro Laminated Wood Products Ltd. *Pool circulating pump:* Sigmund Pumps Ltd. *Blinds:* J. Avery & Co. *Structural steelwork to laboratories:* Moreland Hayne & Co. *Dome construction and rising floor:* Knight Construction Ltd. *Metal windows:* Henry Hope & Sons Ltd. *Plumbing:* Stitson, White & Co. *Lightning conductors:* J. W. Gray & Son Ltd. *Copper roof dome covering:* Holloway Metal Roofs Ltd. *Stone pavings and linings:* South Western Stone Co. *Tiling and partitions:* Zanelli (London) Ltd. *Balustrades and entrance gates:* H. H. Martyn & Co. *Concrete roof beams:* Kingsbury Concrete Co. *Metal windows:* Doodson & Bain Ltd. *Wood block flooring:* Stevens and Adams Ltd. *Bronze rainwater ducts and shutter edging:* The Morris Singer Co. *External rendering:* Modern Surfaces Ltd. *Ventilators:* Colt Ventilation Ltd.

Teachers' Training College at Coventry. *Architects:* W. S. Hattrell & Partners. *General contractors:* W. H. Jones & Son Ltd. *Sub-contractors: Pre-stressed floors and roofs:* R. Costain & Sons (Liverpool) Ltd. *Reinforced concrete beams:* The British Reinforced Concrete Co. *Pre-formed plumbing:* J. S. Wright & Co. *Staircase balustrading:* Scaffolding (Great Britain) Ltd. *Flooring (cork):* Cork Insulation & Asbestos Co. *Wood blocks and plastic tiles:* Hollis Bros. Ltd. *Metal windows:* Stelwin Construction Ltd. *Flush doors:* Gliksten Doors Ltd. *Tiling:* Bryon & Co. *Perspex dome lights:* William J. Cox Ltd. *Electric installation:* The Thompson Electrical Co. *Heating installation:* Ashwell & Nesbitt Ltd. *Ironmongery:* James Gibbons Ltd. *Felt roofing:* Standard Flat Roofing Co. *Classroom block only: Superstructure (steel frame, partitions, curtain walling, etc.):* Hills (West Bromwich) Ltd. *Steel door frames:* Henry Hope & Sons Ltd. *W.C. cubicles:* Venesta Ltd. *Laboratory fittings:* E. O. Shanks & Son Ltd. *Blinds:* J. Avery & Co. *Music and drama block: Steelwork:* Boulton & Paul Ltd. *Gymnasium/swimming bath: Steelwork:* Boulton & Paul Ltd. *Reinforced concrete:* Holst & Co. *Cedar shingles:* W. H. Colt (London) Ltd. *Metal windows and control gear:* James Gibbons Ltd. *W.C. and shower cubicles:* Flexo Plywood Industries Ltd. *Aluminium gutters:* A.P. Metalcraft, Coventry. *Sanitary fittings:* A. D. Foulkes Ltd. *Mirrors:* Glass (Coventry) Ltd. *Gymnasium equipment:* Niels Larsen & Son Ltd. *Heating installation and hot water system and mechanical plant to pool:* H. Clark & Son.

Offices at Kendal. *Architects:* Ramsey Murray, White and Ward. *General contractors:* John Laing & Son Ltd. *Subcontractors: Concrete beams:* Horncop Concrete Works. *Flush doors:* John Herring & Co. *Acousti-celotex tiling:* Wm. Beardmore & Co. *Lightning conductor:* J. W. Gray & Sons Ltd. *Laylight window and controls:* S. Warner & Son Ltd. *Staircase handrails:* Dixon Powner & Sons. *Lift:* Bennie Lifts Ltd. *Mirrors:* Reed Millican & Co. *Strong room doors:* Chubb & Sons Lock & Safe Co. *Domelights:* T. & W. Ide Ltd. *Flagstaff:* Piggott Bros. & Co. *Painter:* Reid Bros. *Tarmacadam:* J. Chaplow & Sons Ltd. *Concrete piling:* The Cementation Co. *Reinforcement:* The Square Grip Reinforcement Co. *Bricks:* Uxbridge Flint Brick Co. *Portland stone:* Jas. H. Harrison Ltd. *Asbestos fireproofing:* Turners Asbestos Cement Co. *Tiles:* Hulme & Petts Ltd. *Slate window surrounds and wall cladding:* Lakeland Green Slate & Stone Co. *Vermiculite roof screeds:* William Kenyon & Sons Ltd. *Roofing felt:* Blackwells & National Roofings Ltd. *Partitions:* Compactom Ltd. *Armour plate glass doors:* Pilkington Bros. Ltd. *General glazing:* Reid Bros. *Woodblock flooring:* The Acme Flooring & Paving (1904) Co. *Terrazzo:* Commercial Marble & Tiles Ltd. *Mastic floors:* J. A. Hewetson & Co. *Waterproofing materials:* Sealers (London) Ltd. *Electric wiring:* Tyler & Freeman Ltd. *Light fittings:* Troughton & Young (Lighting) Ltd. *Central heating, ventilation, air conditioning:* Benham & Sons Ltd. *Plumbing:* Henry Tattersall Ltd. *Sanitary fittings:* Shanks & Co.; Adamsez Ltd. *Marble stairtreads:* Art Pavements & Decorations Ltd. *Door furniture:* N. F. Ramsay & Co. *Casements:* The Crittall Manufacturing Co. *Window controls:* Arens Control Ltd. *Bells:* Gent & Co. *Hosereel equipment, fireproof doors:* Mather & Platt Ltd. *Iron staircases:* The Safety Tread Ltd. *Sunblinds:* Scottish Aluminium Ware Ltd. *Plaster:* Pollock Bros. Ltd. *Metalwork:* Wainwright & Waring Ltd.; P. Bland Ltd. *Marble:* Conways (Tiles & Terrazzo) Ltd. *Textiles and carpets:* Musgroves (Kendal) Ltd. *Wallpapers:* Primavera. *Furniture:* Woolland Bros. Ltd. *Planting:* Mawson & Partners Ltd. *Lifts:* Otis Elevator Co.; Bennie Lifts Ltd. *Clocks:* The Synchronome Co. *Signs:* The Lettering Centre.

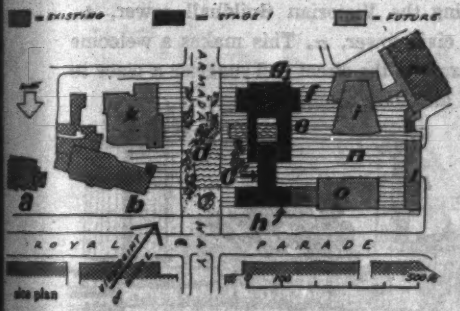

The Sound
y
The Hoe
z
Area occupied by New Civic Centre
c
ARMADA WAY
PARADE
b
ROYAL
a
Barbican
FROM Exeter
ARMADA WAY
f
e
C
d
h
State of Court
Guildhall
b
pool
grass
ROYAL PARADE

Kenneth Browne

Plymouth Centred

Plymouth's plan for its new civic centre marks a decisive breakaway from the Beaux Arts formalism of its 1943 master plan. To its credit, the city council approved this scheme by their new city architect, H. J. W. Stirling, and it has since received international acclaim. Now stage one, designed by Jellicoe, Ballantyne and Coleridge (shown in model opposite) is taking shape and in this article Kenneth Browne assesses the value of the whole scheme as townscape.

To appreciate the visual implications of this scheme (plan below, site in air view opposite) it is necessary to know something of the lie of the land.

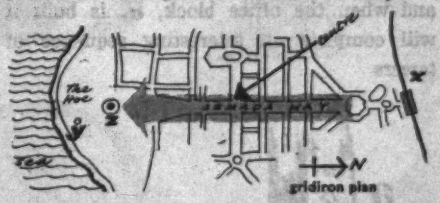


key to drawings and frontis opposite

a, St. Andrew's Church	i, concert hall
b, guildhall	k, law courts
c, 14 storey block civic offices	l, offices
d, The Great Square	m, cinema
e, town clerk	n, inner square
f, council chamber	o, city treasurer
g, Lord Mayor's Parlour	y, lighthouse
h, housing dept.	z, naval memorial

On a map, the geographical position of Plymouth looks magnificent, and judged from The Hoe it is. What the map doesn't show, is that the natural centre of the city lies in a depression. In consequence the sea, the very reason for Plymouth's existence, is out of sight. The section north-south is roughly like this with

the centre here. Standing in the middle of the city the effect is depressing. Instead of the exciting view over The Sound, half a mile away, which you might expect from your map, the ground slopes steeply up to end in sky, not sea. At the same time there is little in the centre itself to hold your attention, and your eye is led away up to the Naval Memorial, *z*, on the Hoe. The post-war gridiron plan, which replaced the blitzed jumble of old Plymouth and is like this,

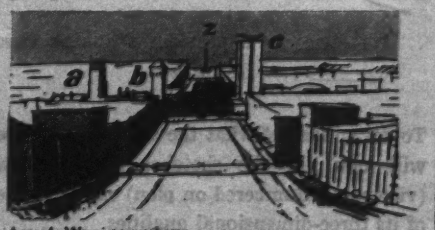


does not help. In effect it emphasizes the distances to be covered and speeds the eye out of the centre in every direction by straight corridor streets. The main feature, Armada Way (marked by arrow) is 1,000 yards long, 150 ft. wide, dead straight and

Armada Way - old scheme

ending in sky at both ends.

Something was desperately needed to pin the whole thing down, something around which the city could revolve: a focal point. The Stirling plan for a civic centre provided just that and its 14 storey office block, *c*, reinforcing the two existing towers of St. Andrew's Church, *a*, and the Guildhall, *b*, linked to them by the trees of the Great Square in between, stops the eye in just the right place.

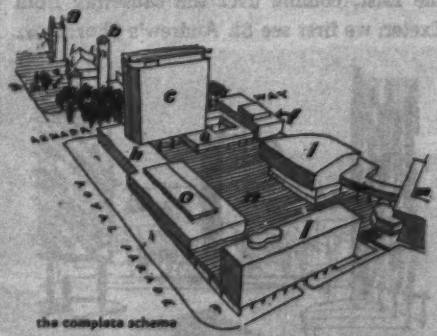


Armada Way - new scheme

The height (close on 200 ft.) of this office building is of great importance. It could perhaps be higher but certainly not lower. It states, like an exclamation mark, the importance of this as a place and it gives an uplift at the

lowest point just where it is needed. When the new Plymouth North Road station tower, *x*, is built there will be a visual link between the highest points; station—civic centre—naval monument.

Approaching from the station the civic centre with its shaded lawns and pools will occur at exactly the right halfway mark for visitors to stop, rest and look around before climbing up to the Hoe. The layout of the centre (sketched below) is asymmetrical and in complete contrast to the grandiose pre-war conception of civic buildings in this country, with their useless towers, massive bronze doorways, etc. The group is dominated by the tall office block, *o*, and encloses an inner square, *n*,

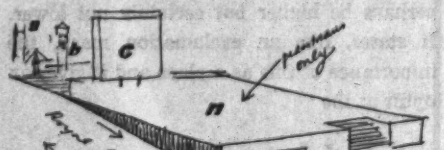


the complete scheme

(containing the concert hall, *i*) which is for pedestrians only. Though surrounded by buildings this inner square allows the eye

to escape where the buildings are raised up on columns. This space will be in pleasant contrast to the traffic-dominated streets outside. Though the axis of Armada Way is not in fact blocked, the Great Square will link across to the existing Guildhall, *b*, and St. Andrew's Church, *a* (now restored by the city architect) and also to the future law court building, *k*. The group being three dimensional in conception will provide (unlike buildings in corridor streets) infinite change of aspect to the visitor and, thanks to the absence of traffic, he will be able to move about and look at the buildings in safety.

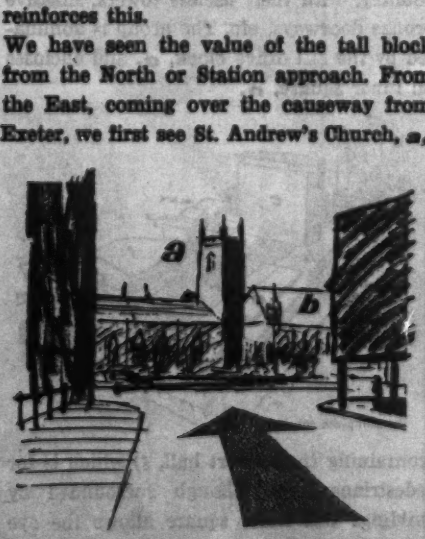
Clever use has been made of levels, for there is a fall of 18 ft. on Royal Parade. Instead of dissipating this, the designer has used it to dramatize the civic conception and present his buildings on a raised platform which is strictly pedestrian territory.



The space below is used for car parking with direct access to the buildings above.

The Great Square comes in stage one of the programme and its site has always been a natural place to rest and get your breath back between the station and the Hoe. In this scheme the pedestrian comes first, a welcome change, and the emphasis is on relaxation. Everything is done to make the square attractive by subtle use of trees, paving, water and grass. The trees drift across the square tying one side to the other and the surface pattern, using a superb local marble, reinforces this.

We have seen the value of the tall block from the North or Station approach. From the East, coming over the causeway from Exeter, we first see St. Andrew's Church, *a*,

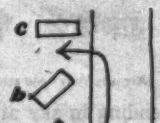


between flanking buildings

then the scene opens up revealing the Guildhall, *b*,

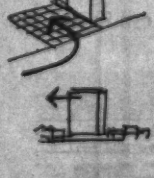
and when the office block, *c*, is built it will complete an interesting sequence of towers

and by its position, at right angles to the street, turn the eye into the square lying between *b* and *c*.

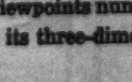


This building does the following :—

it acts as landmark to the whereabouts of the civic centre

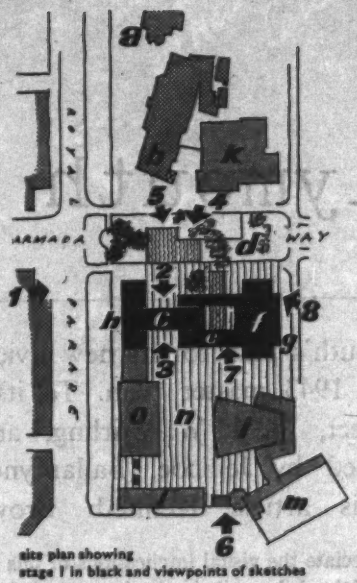


it turns the eye into the square



it provides a linking view of the sea.

To get an idea of what the complete scheme will look like the sketches which follow (viewpoints numbered on plan) explore some of its three-dimensional qualities.



site plan showing stage 1 in black and viewpoints of sketches

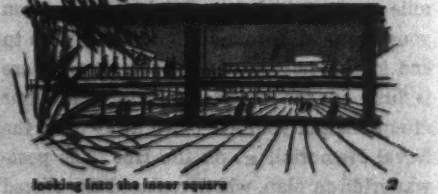
First of all, seen from Royal Parade, *1*, fine existing trees drift across the square linking the Victorian Guildhall tower, *b*, and civic tower, *c*. This makes a welcome contrast to the street and suggests a place to stop and look around.

The Great Square 1

Entering the square and looking right *2*, the visitor will see through the glazed entrance hall of the high block, *c*, into the paved inner square, *n*, beyond. A hide and seek glimpse of buildings, partly screened, which will tempt him to explore further to see what goes on.

Having penetrated under block, *c*, and looking back, *3*, he will see St. Andrews and the Guildhall framed in a slit view, the buildings part hidden by trees. The patterned paving which passes unchecked through the entrance hall emphasizes continuity of vision between the outer and inner squares.

Back in the Great Square, *4*, there is a welcome chance to rest on the seats which ring the trees. This is a good spot to relax



looking into the inner square 2

in the shade and enjoy the surroundings with the weight off your feet. Large stretches of grass and water add attraction, while the buildings are part hidden by the foliage. There are no loose seats to clutter the scene. You can sit under the trees, on the stone edge of the pools, *5*, or just lie on the grass.

in The Great Square 5

Approaching from the other end of the site, *6*, an exciting panorama of buildings unfolds as you climb the steps to the level of the inner square. This is where the intelligent use of levels comes in. From the street, with its entrance, *p*, to the underground car park, you cannot see into the square and this creates just the right feeling of suspense.

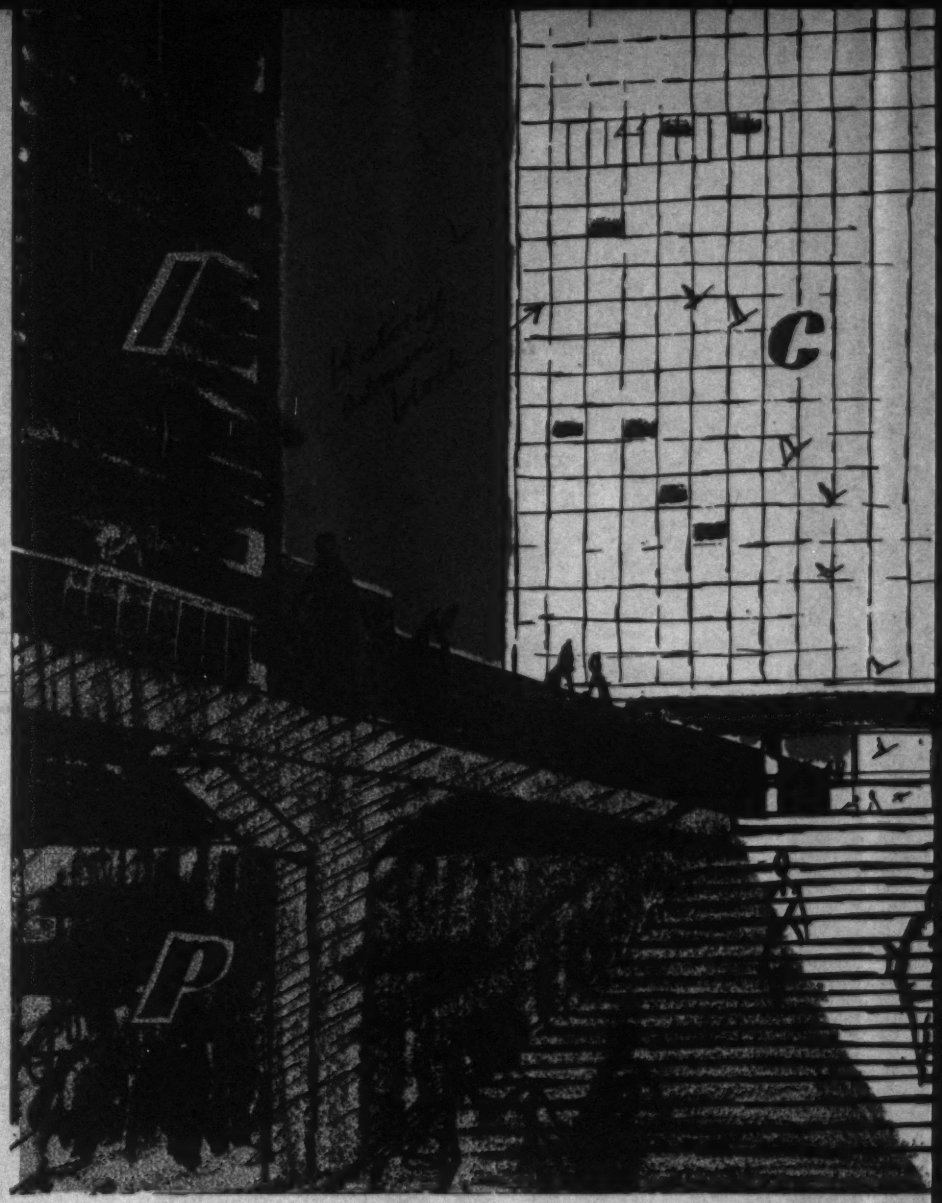
Crossing the inner square you can look through under the Town Clerk's offices, *7* (part of stage one) which are raised up

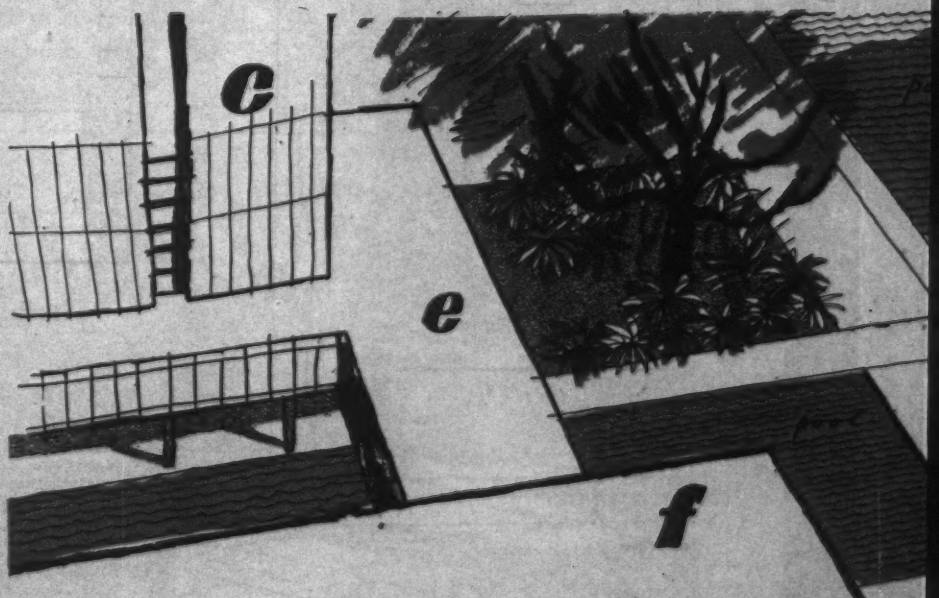
looking through under the Town Clerk's office 7

to form a colonnade. This is a top-lit, slit view with the pool carrying your eye on to the trees of the Great Square beyond.

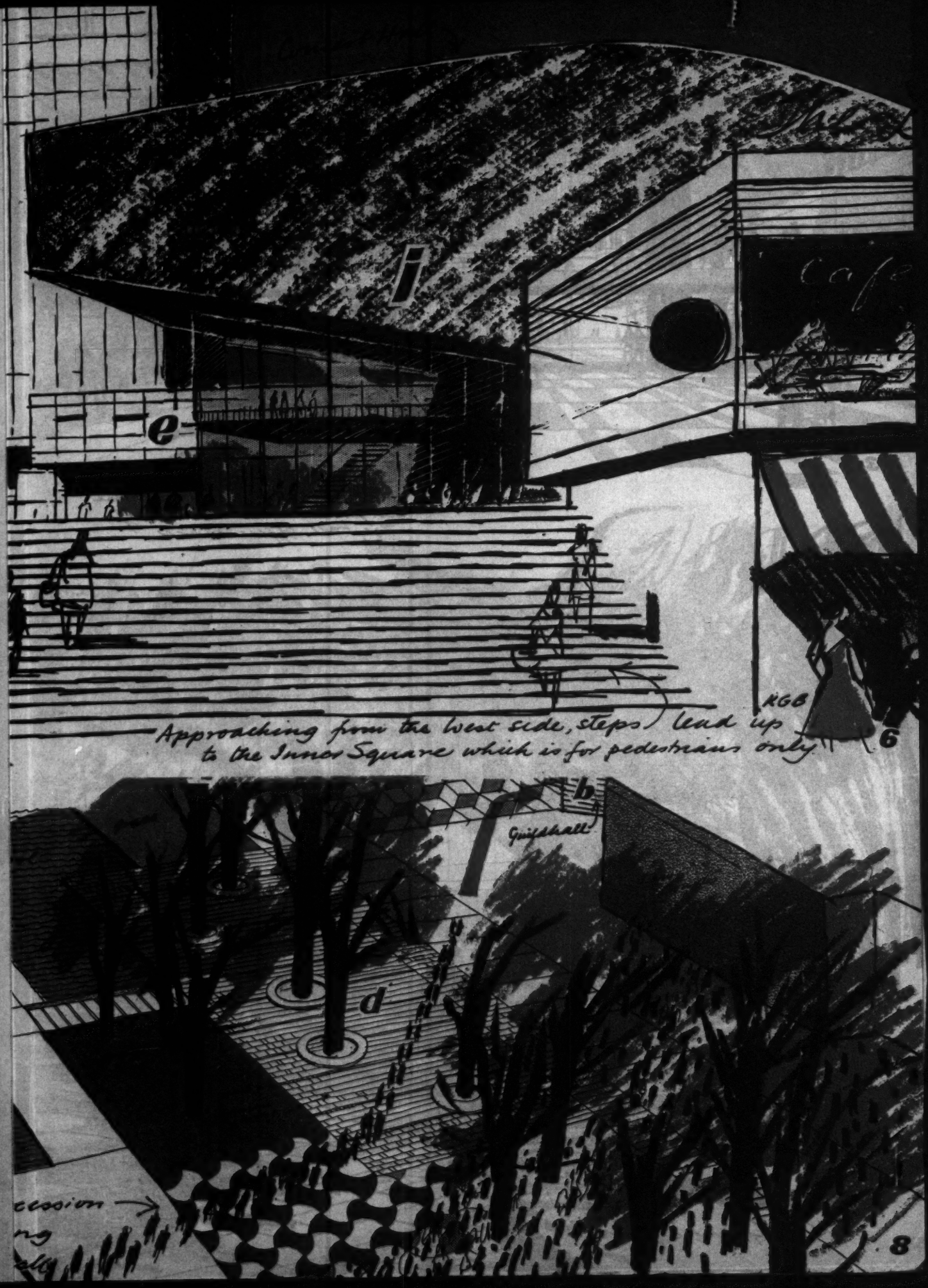
Sketch *8*, shows the informal way in which the architects have treated the surface of the main square. There is an interesting contrast of hard (paved) and soft (grass) surfaces interlocking and the trees penetrate apparently at random.

The route which the Lord Mayor's procession will take from the Council Chamber, *1*, to the Guildhall, *b*, is no formal way but a casual winding route across the varying patterns of paving and in between the trees. When completed Plymouth civic centre could be the finest in the country and add enormously to the prestige of that city, something worth going a long way to see. However, it is a bold plan which demands a bold execution; an entity which will permit of no half-hearted whittling away. It's all or nothing.

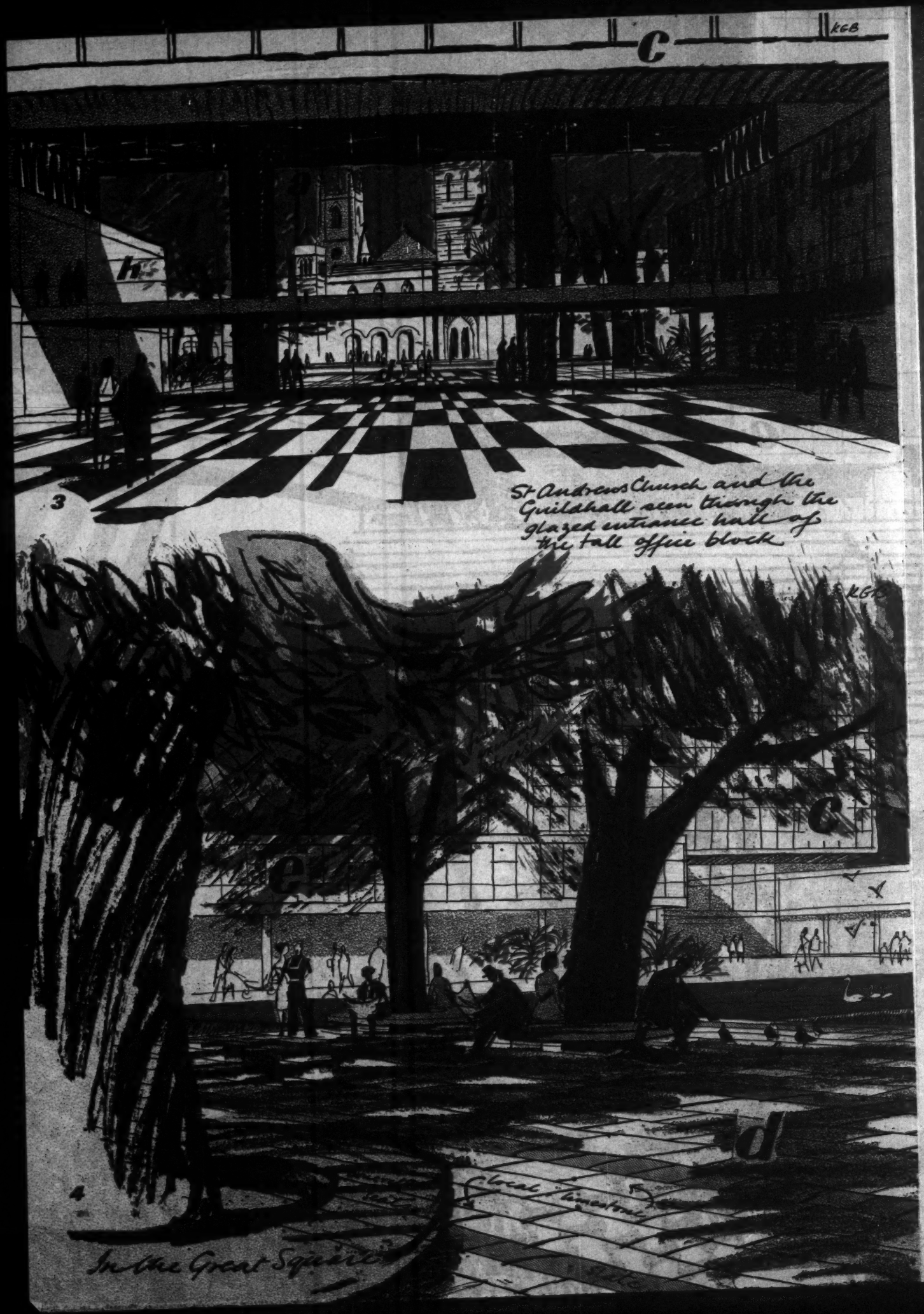




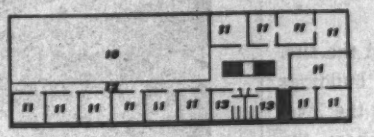
The Lord Mayor's pro
leaving the Council House and cross
The Great Square on its way to the Guildh



Approaching from the west side, steps lead up to the Inner Square which is for pedestrians only


KGB
c
3
St Andrews Church and the Guildhall seen through the glazed entrance hall of the tall office block
KGB
c
c
d
4
In the Great Square

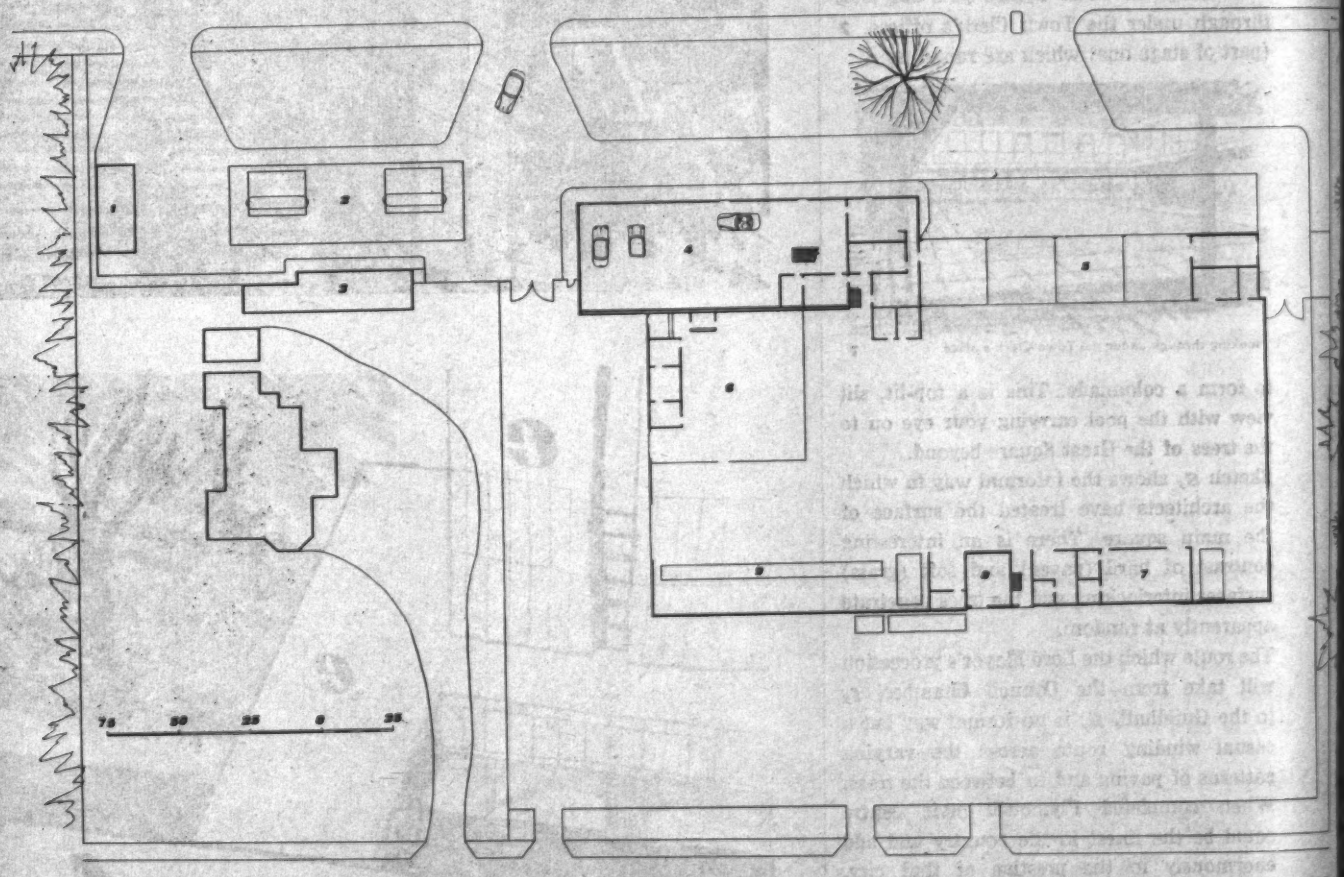
GARAGE AT POOLE



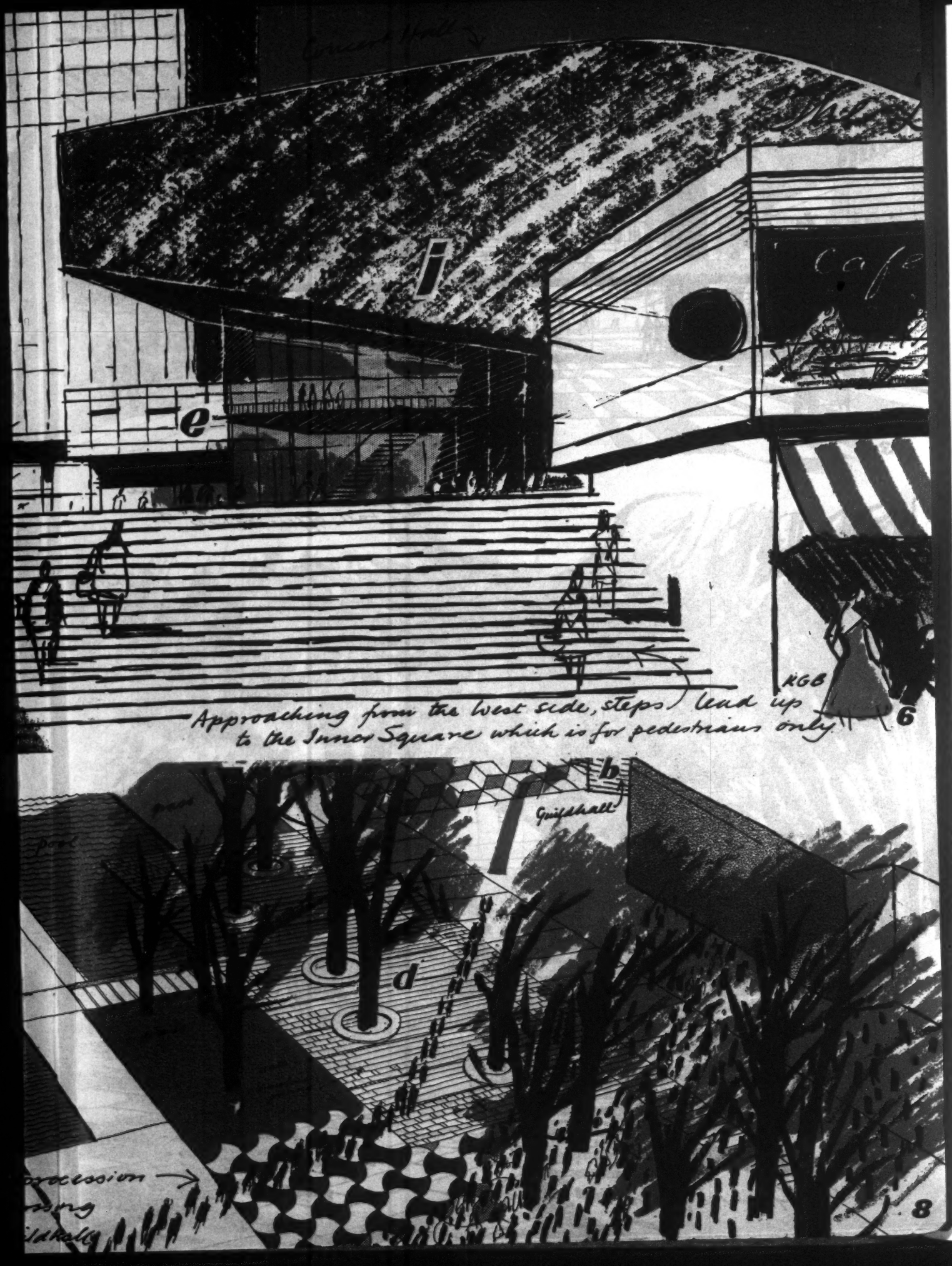
first floor

key
1. petrol storage tanks
2. pump island
3. filling station
4. showroom
5. lubrication and washing bays
6. workshop
7. engine shop
8. boiler house
9. pits
10. upper showroom
11. office
12. balcony
13. cloakroom

N



ground floor


Concert Hall
Cafe
i
e
KGB
6
Approaching from the west side, steps lead up to the Inner Square which is for pedestrians only.
b
Grillshall
d
8

GARAGE AT POOLE

ARCHITECTS	**FARMER AND DARK**
partner-in-charge	**E. M. C. Butcher**

1, the showrooms from the road.

The site in Poole Road was occupied by three large Victorian houses, one of which still stands but will be demolished later to make way for the next phase. The basic requirements were for a showroom, offices, lubrication and washing bays, a maintenance area and a petrol filling station. The canopies over the petrol pumps are built up from glued plywood strips, in two layers, forming a self-supporting stressed skin. The sales room, with a tile mural of a model T Ford, will eventually be pulled down to make way for an extension to the showroom and offices.

The main part of the showroom is two storeys high and fully glazed on the north and west sides. The black terrazzo staircase leads to the offices which open off a gallery on the south side of the building, with the sales counter beneath. Natural wood, parana pine, oak and

2

2, the pump island with its cantilevered plywood canopy.
3, the interior of the showroom, with the office balcony on the left. The floor is of oak, specially treated to withstand oil and tyre marks.
4, the retail counter has direct communication with the stores behind.

3

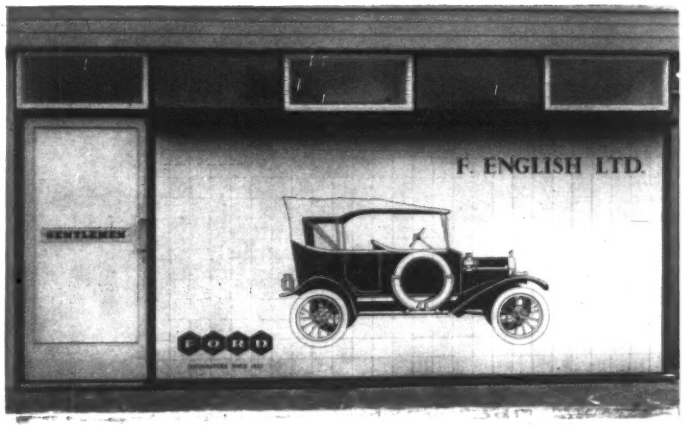
4

western red cedar, treated with a matt varnish, is used to contrast with the painted surfaces. Each rooflight contains eight fluorescent tubes behind opal perspex, with recessed spotlights to give sparkle. Heating is by warm air convectors, radiators and a continuous heating coil below the large windows. There are also anti-condensation pipes running through the rooflights.

The four lubrication bays and two washing bays have quarry tile floors and full height, aluminium-framed glazed folding doors. Waste sump oil is automatically pumped to a tank behind the building where it is used as boiler fuel. The maintenance shop has a height of 15 ft. 6 in. to the underside of the steelwork, which allows for overhead services and two storeys of small workshops and cloakrooms. The main lattice roof trusses are placed above the level of the roof and support the glazed roof lights. The roof is of insulated galvanized steel decking, covered with bituminous felt. All external

GARAGE AT POOLE

5



walls are clad with vertical patent glazing, capped by a fascia of ribbed aluminium sheet above an 8 ft. high plinth wall of buff and sand lime brickwork. At each end are 18 ft. wide sliding-folding doors. The stores occupy two bays at the back of the showroom and are of patent slotted angle.

All rainwater pipes are mounted internally on the centre row of stanchions. In the maintenance area all steelwork is painted light blue, with walls of natural brickwork treated with a clear glaze. Externally the exposed structure is light stone colour, all opening window frames are light blue and all fixed windows dark blue/grey.

5, a tiled mural of a model T Ford designed by I. C. Case forms one wall of the sales room behind the pumps.
6, at the rear of the building an 8 ft. high plinth wall of buff sand lime bricks is topped by vertical patent glazing, with a fascia of ribbed aluminium sheet.

6


SABENA
IGIO PACE VICTORIA

Nicolete Gray

THE MODERN MOVEMENT

The contrast between the skyline lettering of a recent building in Rotterdam, opposite top  *and the inscription in the arcade frieze of the Palazzo Ducale at Urbino, below, underlines the emergence of a new relationship between building and lettering. In both cases the forms of letters are appropriate to the forms of other decorative elements in the architecture but, as Mrs. Gray points out in the article below, in many modern buildings the lettering is not merely decorative, but functionally necessary, thus necessitating a new attitude on the part of the architect.*

We have in previous articles surveyed many different sorts of lettering, different types and different ideas and uses, but the problem which arose in the very beginning still remains to be answered; which of the traditional styles of lettering are best adapted to the modern style in architecture or does it demand a new or exclusive letter of its own?

The relation between lettering and building is new today. In the past it has been an extra, something deliberately chosen and added by the architect or client, because they wanted it for some reason of their own. Today for many types of building it is a necessity and this change seems to work both ways. Sometimes and for some sorts of work, for instance for shop fronts, it is more considered, planned from the start as one of the conditions given. But more often, particularly in large buildings, it would seem to be ignored and treated as an unimportant detail, a fitting that is added at the end. It still has no recognized,traditional place and treatment in the vernacular of modern architecture, as it had, of course, in the far more uniform scheme of classical building, where it had its place on the architrave, under the pediment. The Renaissance added the practice of placing the inscription above the courtyard colonnade, as in the Palazzo Ducale at Urbino. Finally, there is the inscription inside, round the dome, as at Anet or St. Eligio-degli Orefici in Rome. What are, or what should be the modern counterparts?

The first quarter of the nineteenth century saw the invention in England of a completely new sort of typography, new in function, in idea, and in its component letters. In some ways the play bill, with its arrangements of great heavy patterns and reintroduction of decorated letter design is nearer to the medieval manuscript than anything intervening. It also reintroduces the three-dimensional element, used, for instance, by the Carolingians (AR Aug., 1956) with its shaded and its perspective letters, 1. As we have seen in previous articles the typographical innovations were paralleled, if not preceded, by architectural letters of the same design; heavy if not true fat-face Romans, Egyptians, Tuscans, and rather later, sans-serif. The early nineteenth century printer made up his material into wonderful pictorial abstract designs, the builder and engineer incorporated his into the sub-classical domestic vernacular and the early functional architectural terms of the time. We have already shown how the new designs grew out of, or were adapted to the new and the greatly increased variety of materials coming into use. To recall the sort of letter which was being invented we reproduce a magnificent cast iron Tuscan, still to be seen in Covent Garden, 2. The extent to which lettering might be felt to be part of the new movement of expansion and discovery is demonstrated in the cast-iron bridge at Bettws-y-Coed by Telford, in the year of Waterloo, 3. 4 shows a later example, using a sans letter of the same idea, this time on the Abermule bridge over the Severn built in 1852. Most of this lettering is as anonymous as the contemporary type design and composition, and the building which it decorates. It is typical, however, of the cultural unity that still survived, if precariously, that the lettering on Nash and Smirke buildings (as at Chester Terrace and Adelaide Place, Charing Cross, AR April, 1957 and June, 1954) are of the same school as the commercial letters.

Good architectural lettering seems to have lasted longer than good popular typography. The developments we have been considering were all pre-Victorian. You see plenty of good letters well applied to early Victorian buildings, whereas though a multitude of fascinating type-faces were invented it seems that they were too much for the Victorian compositor. After about 1840 he seems to lose command of his material, to choose his type solely on the basis of whether it would fit the copy into the line, combined with the principle of using as many different founts together as possible. The results are often enchanting as type-specimens, but no longer designs in their own right. In the late 'seventies, however, a second revolution took place, and *artistic* printing and lettering begins to appear, 5. Again it seems to be a movement which was commercial and anonymous in origin. It is easier, at least in the present while the architectural material is unstudied and uncollected, to follow its development in printing, though

1

2

3

1, *Victorian theatre bill.*
2, *cast and painted metal letters, Covent Garden.*
3, *detail of the Waterloo Bridge, Bettws-y-Coed*, 1815.

the two spheres must have been closely parallel, if not intimately connected. In printing the revolution was greatly influenced by the introduction of the platen press, which made possible the printing of elaborate jobbing work in colour, also by the great prosperity and comparatively low wages of the period which made it feasible for a compositor to spend whole days on the setting of an invitation card or letter head. This time the first centres were in the United States, Harpel's *Typograph or book of Specimens*, published in Cincinnati in 1870 is a landmark. W. J. Kelly, editor of the *American Model Printer*, was a pioneer. It became very popular in Germany, and in England, through the Printers International Specimen Exchange organized in 1880, by which printers exchanged the requisite number of copies of their own design and received in exchange specimens of those of all the other printers. The volumes which contain these exchanges, which continued until 1898, show a very remarkable and sophisticated international school of design. The interesting features are the incorporation of a semi-abstract type of ornament, made up of combinations of rules, and units of typographical ornament, into a design of lettering; the fact that the principles of this design were asymmetrical; the creation of surface textures at various levels in relation to the surface of the page, making a design in three-dimensions; and, finally, the use of a repertory of type-faces which are neither Roman nor Gothic but free and fluid in form. The sources of this repertory were provided by enthusiastic scholarship which searched manuscripts, brasses and tombs and reproduced almost every variety of alphabet discovered there, in books ranging from the impressive publications of Henry Shaw and Noel Humphries to cheap paper covered alphabet books. The commercial type designers of the period had the advantage that not being scholars they departed freely from their models without inhibitions, and produced a series of designs of which the motives are almost always expressionist. In doing so they freed letter design, for the moment at least, from the exclusive dominance of the square Roman.

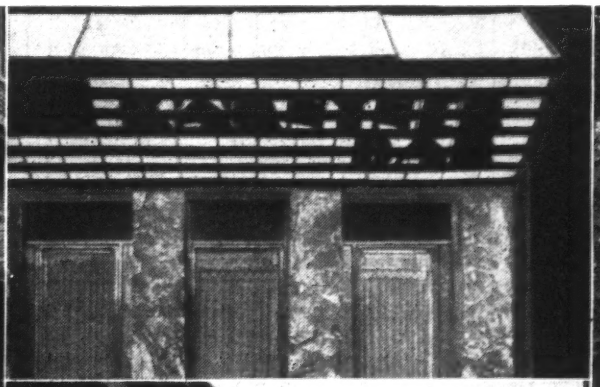
The architectural counterparts of 'artistic' printing are to be seen in most cities, sophisticated combinations of free, almost always compressed, letter forms in terracotta, in mosaic, combined with ironwork, or less often applied. 6, gilt wood letters from a shop front in Cheltenham is typical, particularly in the way in which the lettering is integrated with the balcony and in proportion to the windows. The architectural letter was, of course, at a disadvantage in not being free, but being a component part of an art which was almost in dissolution.

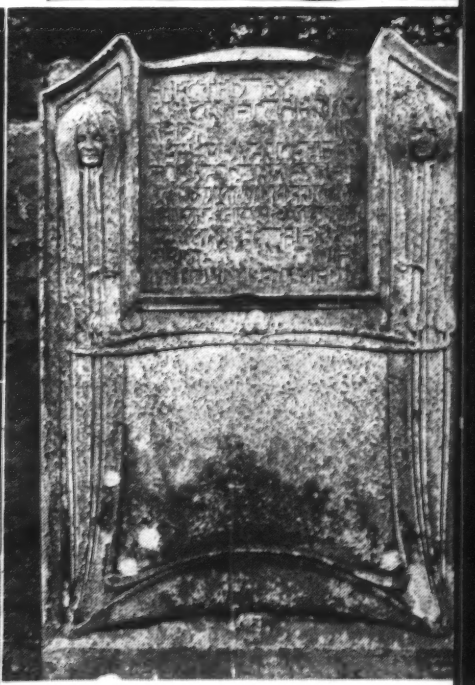
At this point the history of lettering joins up again with that of the modern movement. The connection between 'artistic' lettering and *art noveau* is obvious if indirect. In the 'nineties this free tradition was taken over by the conscious, educated artists. In the graphic arts there is a mass of material in books, posters and in the aesthetic magazines which proliferated; the interest in lettering is unparalleled since the Renaissance. It differs from 'artistic' printing in many ways. Gone are the banal printers ornaments of cranes and Japanese fans and parasols, but not the Japanese influence. It is all simpler and the lines now have rhythm and life; but the free compressed letter-forms used belong to the same pre-Renaissance idea, and they are now incorporated into pictorial patterns even more directly. The focus seems to be the school of Rudolf von Larisch in Vienna. Larisch published his book *Uber Zierschriften im Dienste der Kunst* in 1899, and in 1902 he was appointed to the Kunstgewerbeschule, the same year that Johnston was appointed to the Royal College of Art in London. Their methods and results were, however, quite different. Both revived and studied the calligraphy of the past, but Larisch was much more interested in the unity of the piece than in the type of letter, 7. He wrote 'in this field norms have done more harm than good.' He made his pupils experiment in all sorts of materials, wood, leather, glass, metal, ceramics, textiles, adapting the letter forms to the tool and the material. Most interesting are the first of a series of portfolios of specimen lettering which he produced between 1900 and 1926. They are interesting partly as very illuminating exercises in his doctrine that it was the rhythm between the letters rather than individual forms which needed to be studied, that the space around was as positive as the shapes superimposed. Secondly, they are interesting for the names of those who contributed, some of the most alive people in Europe and many of those who were in particular working for the integration of art and the machine, and laying the foundations of the modern style in architecture. The names include Mackintosh, Ashbee, Walter Crane, William Nicholson, Grasset, Valloton, Berlage, Wagner, Behrens, as well as Ehmcke, Hupp, Weiss and Koch. The examples are very varied, some clearly anticipate neoplastic and constructivist elements in the abstract movement of a decade later; this portfolio, 8, was published in 1902.

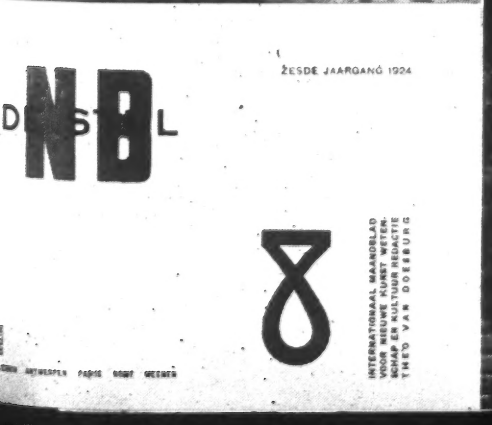
Contemporary architecture also reflected the integration of the arts, which was one of the great contributions of this period, and the vitality of its lettering. 9 is an example of the lettering of the Viennese architect Wagner. 10 shows a design by Loos, very clearly related to the Larisch experiments, though most of the lettering on his other shop fronts is not so interesting. The tradition continues in the work of Behrens, who was himself a type-designer of distinction.

One might have hoped for similar developments in England. The ground seemed all prepared. Lewis Day's *Lettering as Ornament*, published in 1902, provided what is still easily the most stimulating collection of examples of historic lettering. Minor works such as the Boulting building (AR, April, 1959) are promising, and the commercial tradition must have been still alive up to 1914. In Scotland all Mackintosh's lettering is interesting, 11. What lacked, after his failure, was the architectural experiment. The most interesting example that I know in this tradition is Hay's Wharf, built in 1930 by Goodhart Rendell. Here the lettering is still both free,

QUADRATUR SCHUBERT FAY
PULVERDAMPF KASTENGEIST
ZEIT TODTENKLAGE BAJAZZO
VORWÄRTS GÖTZENKULTUS
BOLERO GALILÄA POSSE MAX

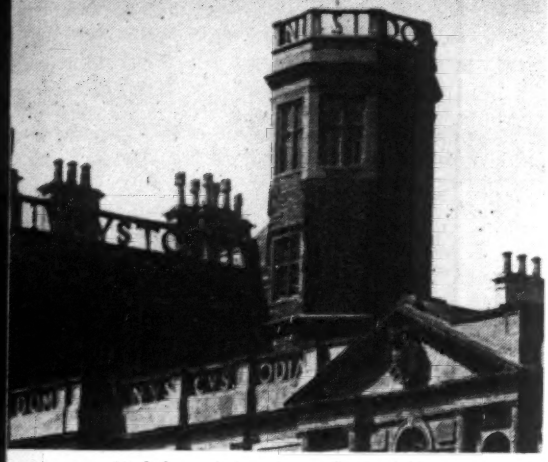






4		5
6	7	8
9	10	11
12	14	
13		

4, *Abermule Bridge over the Severn*, 1852.
5, *American 'artistic' printing*, 1880.
6, *shop front, Cheltenham, c.* 1914.
7, *exercises in lettering design by vom Larisch and*
8, *by Mackintosh.*
9, *lettering on building by Wagner, Vienna*, 1905.
10, *shopfront by Loos, Vienna*, 1907.
11, *tombstone by Mackintosh*, 1907.
12, *wood letters on Hay's Wharf*, 1930.
13, *cover of De Stijl magazine*, 1924.
14, *design by Oud, Rotterdam*, 1925.



15, *balustrade lettering at Castle Ashby*, 1624.

and integrated with the building; the style is the same for both elevations, but the proportions are notably adapted, 12.

The next phase of the modern movement was also vitally interested in lettering, as the typography of its magazines demonstrates, one only needs to recall the Futurist Manifesto, De Stijl, or Tschichold's exposition in *Die Neue Typographie*, 13. There was a definite recession in formal interest. The free letter of the beginning of the century was rejected, chiefly because of its ornamental tendency, also, perhaps, because it was compressed, whereas the whole tendency of the twenties was towards square forms. They consequently took the square sans serif, as a functional symbol, though one notes that in Tschichold the theory is at least as expressionist as it is functional, since the object is to make a 'sight poem,' to evolve a typographical structure in which the meaning of each word of the text shall find a formal expression. In one direction this tendency led away from possible architectural application to Dada typography. In its formal experiments in the building up of asymmetrical designs out of the geometric shapes of sans serif letters this movement produced a new style in the history of architectural lettering. The De Unie café of Oud, 14, built in 1925, is a very successful example. One notes that it is fundamentally two-dimensional in design, like a page, and that the brutal, unengaged nineteenth century sans is preferred to anything approaching Johnston's scholarly design, with its completely worked out proportions. The preoccupation is with suiting the letter to the architectural forms, not with the perfecting of letter forms. The 'twenties went further, however, and discovered an integral place for the letter in the new architecture, on the sky-line. It was not a new invention, as we have seen it is a feature of Jacobean country houses—we reproduce the finest of all the English examples, Castle Ashby, 15, dated 1624, as a reminder—but it seems likely that it may be epoch-making in the history of townscape as well as of architectural lettering. 18 reproduces a drawing by the Russian architect G. Barchin of 1925; the project was never built, but it must with 16, a factory designed by Perret 1920–1* be one of the earliest twentieth century examples. Today the idea is being used extensively in Holland and Germany, 17 and frontis. With modern methods of illumination it is even more exciting.

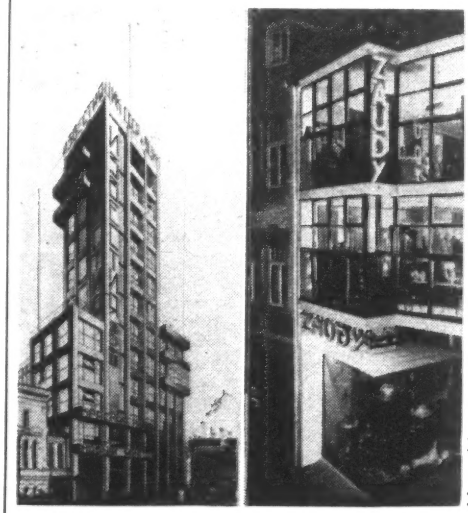
Nearer the eye level the felicitous place for the letter seems yet to be discovered. It needs perhaps a more three-dimensional approach to the problem than is common. 19 suggests such an approach; seen also occasionally in more recent shop fronts.

All these later examples have used a sans letter. Is this the only suitable form, or can we not use some of the other inventions of earlier phases of the modern movement? The stage which architecture has reached today is not one that can be covered by a single theory; the modern style seems to be developing in many directions and moods. It certainly includes a classical tendency, in the sense of a seeking for perfect proportions, and this seems to call for a classical letter in the same sense. This is not to suggest a return to the Roman letter, whose primary characteristic, the bracketed serif, belongs to the chisel or pen-made letter and has little meaning apart from these tools. Though its other characteristic, the graduated line, is an invention by which the letter can be adapted in proportion and feeling to the building of which it is part; avoiding the uncompromising geometrical attributes of the even-line sans serif, and opening possibilities of a far more elegant and versatile norm than any hitherto evolved.

But all modern architecture is not so pure in intention; there seems to be plenty of room for a greater variety of formal play in the wide gamut of letter shapes which are current and which offer, indeed, the chief decorative means of enlivening shop and street in a contemporary idiom—more particularly by night. The Egyptian face is full of potentialities, though we do not yet seem to have found any satisfactory standard relation between the letter and its background, to replace the Victorian relation which was based on the continuity of letter and wall, and the consistency of letter and architectural detail. Today both these conditions have disappeared. Finally, modern architecture also envisages arbitrary forms and expressionist purposes, for which, perhaps, it may well need to regain the formal freedom which was attained at the end of the last century, which reached after all a far higher level than the graffiti of Le Corbusier at Ronchamp.

But new forms are creations, of their nature unexpected, though needing perhaps a large background of trial and error and experiment: that the last few years have certainly provided. The sterile uniform Trajan imitation is dying and lettering is beginning to regain its integral place in the modern movement.

* I am indebted to Professor H. R. Hitchcock for telling me of this example.



18

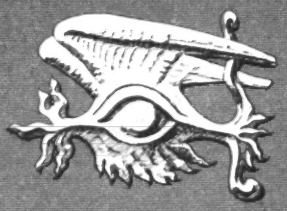
19

18, *project for Iswjestia building, Moscow, design by G. Barchin*, 1925.

19, *shop in Wesel with lettering on two planes. G. Rietveld.*

16, *possibly the earliest modern balustrade lettering. Perret factory at Montatoire*, 1919–20.

17, *recent example in Rotterdam.*



the exploring eye

What Western eyes admire in Japanese historical architecture is the detailing, and the ingenuities of the plan with its consequent subtleties of spatial relationships. At a time when sections of buildings are not much discussed, the sections of Japanese buildings are not discussed at all. But vertical movement from floor to floor, or other changes of level, have never been much considered in Japanese architecture and, in consequence, staircases are not features of any importance.

According to tradition, the creation of the Sazae-Do *at Wakamatsu is due to two men—a carpenter of the Yamashigi family, who built it, and the monk Ikudo of the Jisso-ji temple in Wakamatsu, who conceived it. This portrait statue of Ikudo on his elegant chair was displayed in the* Sazae-Do, *but the carpenter's only memorial was the tradition honouring his family name.*

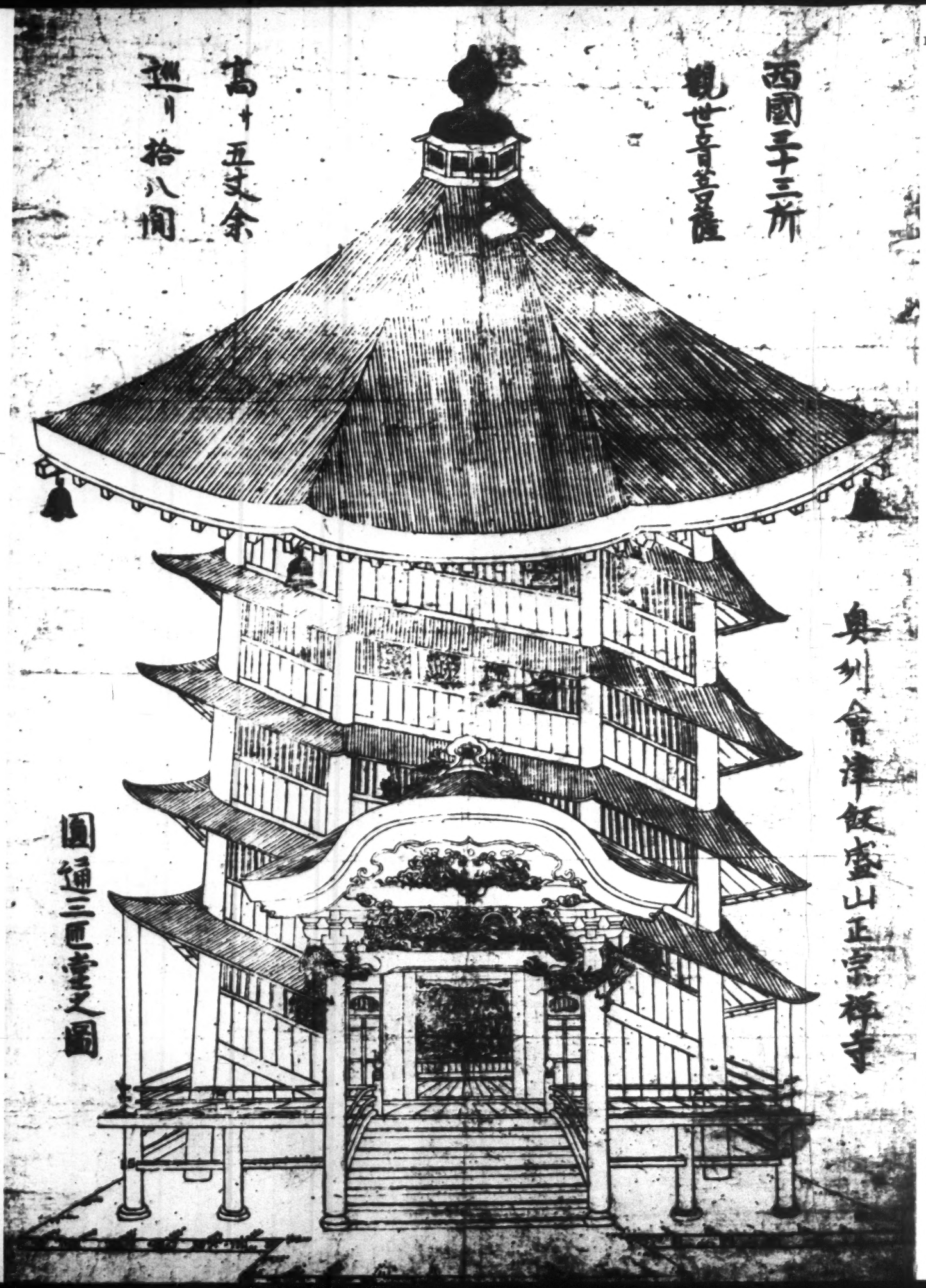
For these reasons, the subject of the photographs on these pages is of unique interest in the history of Japanese architecture, since it appears to be the sole survivor of a never-very-numerous group of late eighteenth-century structures whose entire existence depended on the idea of a spiral ramp. The *Entsā-Sansōdō* or *Sazae-Dō* in Wakamatsu, a city in the Prefecture of Fukushima, can be compared functionally to the *Sacri Monti* of Italy—it was a pilgrimage centre, and within it a processional route took the pilgrim past thirty-three statues representing the *Kannon* or sacred places of the Buddha, and to have visited the *Sazae-Dō* was taken to be equivalent to having made a pilgrimage to the thirty-three sacred places. But whereas the *Sacri Monti* are a unique landscape conception, the *Sazae-Dō* is a unique architectural conception, a two-start spiral ramp making two complete turns around a central core, one spiral for ascending, the other for descending, connected by a bridge at the top. Each ramp is invisible from the other, but the footsteps of persons moving in the other direction are heard overhead.

Multi-start spirals, whether ramped or stepped, are a rarity in world architecture—most of them are in the note-books of Leonardo da Vinci—but in Japan the only parallel appears to have been an earlier *Sazae-Dō* at Edo (now Tokyo). The Edo version, completed some time before 1786, appears to have been the inspiration of the Wakamatsu structure, since both were called *Sazae-Dō*, which means literally, 'top shell hall,' implying a smooth spiral, rather than a system of steps.

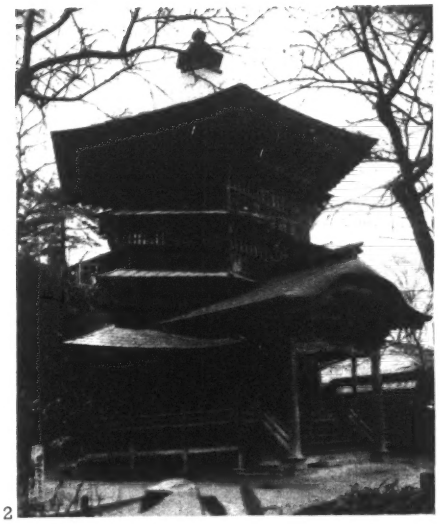
At all events, the completion of the Wakamatsu tower in 1796, so soon after its forerunner in Edo, suggests that the idea of spiral ramps must have had a validity in Japanese ideas at that time that it has lost since. In spite of its practicality, and the influential standing of the Zen Buddhist sect that sponsored it, there have been no attempts to revive the idea, even for the purpose that it serves so well.

BUNJI KOBAYASHI

Since this was written, Yuzo Nakamura has advised me that the sculptor Ko-un Takamura (1852-1934) wrote of the double ramp of the Sazae-Do at Edo in his memoirs (Ko-un Kaikodan) which appeared in Tokyo in 1929. Apparently the Edo tower stood until at least 1808, but it is not known how soon after that it was pulled down.


西國三十三所
觀世音菩薩
高十五丈余
巡リ拾八間
奥州會津飯盛山正宗禅寺
圓通三匝堂之圖

1



2

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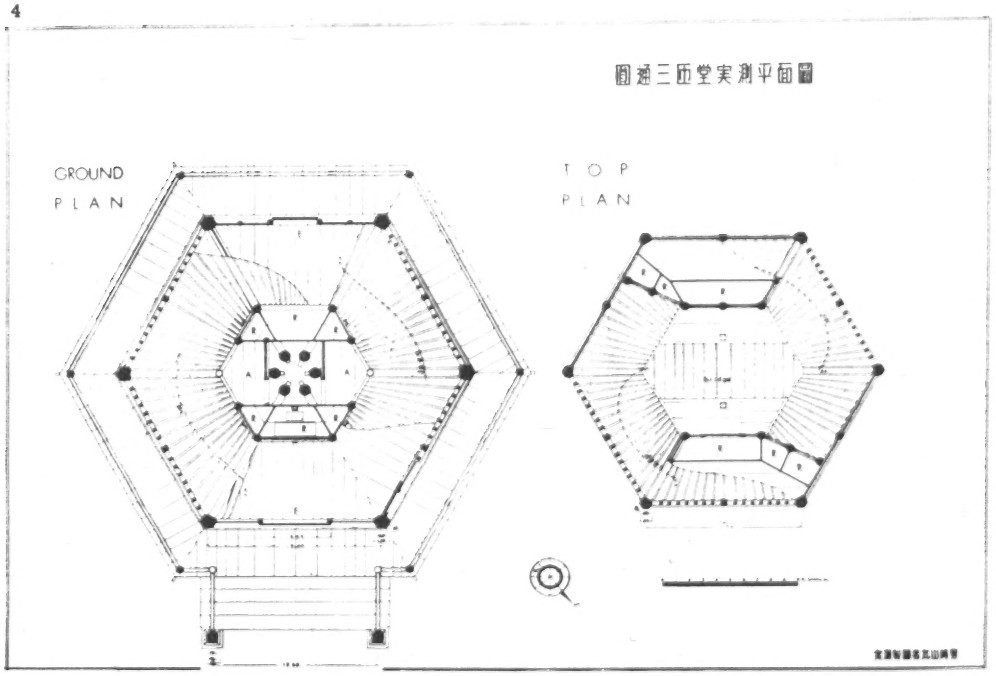
4

1, a print in the possession of the Yamashigi family, one of whose members was the master carpenter for the tower, records its original appearance—an all-wood structure 51 feet high, 13 feet to a side, with its walls battering in toward the top. Comparison with ***3*** shows how little it has been altered.

2 and ***3,*** front and rear views of the Sazae-Dō at Wakamatsu. The rather casual mating of the porch and the spiral roof suggests the unfamiliarity of this type of architectural conception to Japanese designers of the time. On the other hand, the neat and workmanlike management of the horizontal and inclined structural members, the roofs and the window-grilles, as they appear in the rear view, suggest that once the spiral was established, then the design was under control.

4, Professor Kobayashi's measured drawings show the hexagonal plan of the Sazae-Dō, the cluster of six wooden posts that accept the inner end of the beams supporting the ramps, the two ramps themselves and the bridge that connects them at the top. Marked with *R* are the recesses to hold the Kannon figures that were the object of the pilgrimage to the tower.

5, 6, 7 and ***8*** (reading upwards), the upward ramp, rising from the front entrance (the descending ramp finishes at the rear door) up to the roof, plastered with paper seals, ***8,*** put there by generations of pilgrims. In ***6*** two of the central structural posts can be seen, and also the narrow connecting way to the descending ramp. People living in Wakamatsu remember using these connecting ways, when they were children, in elaborate games of hide and seek. ***7,*** at the top of the ramp, shows the bridge running off to the right, and two of the recesses in which the Kannon statues were displayed—these have now been replaced with pictures of the Twenty-four Dutiful Children.



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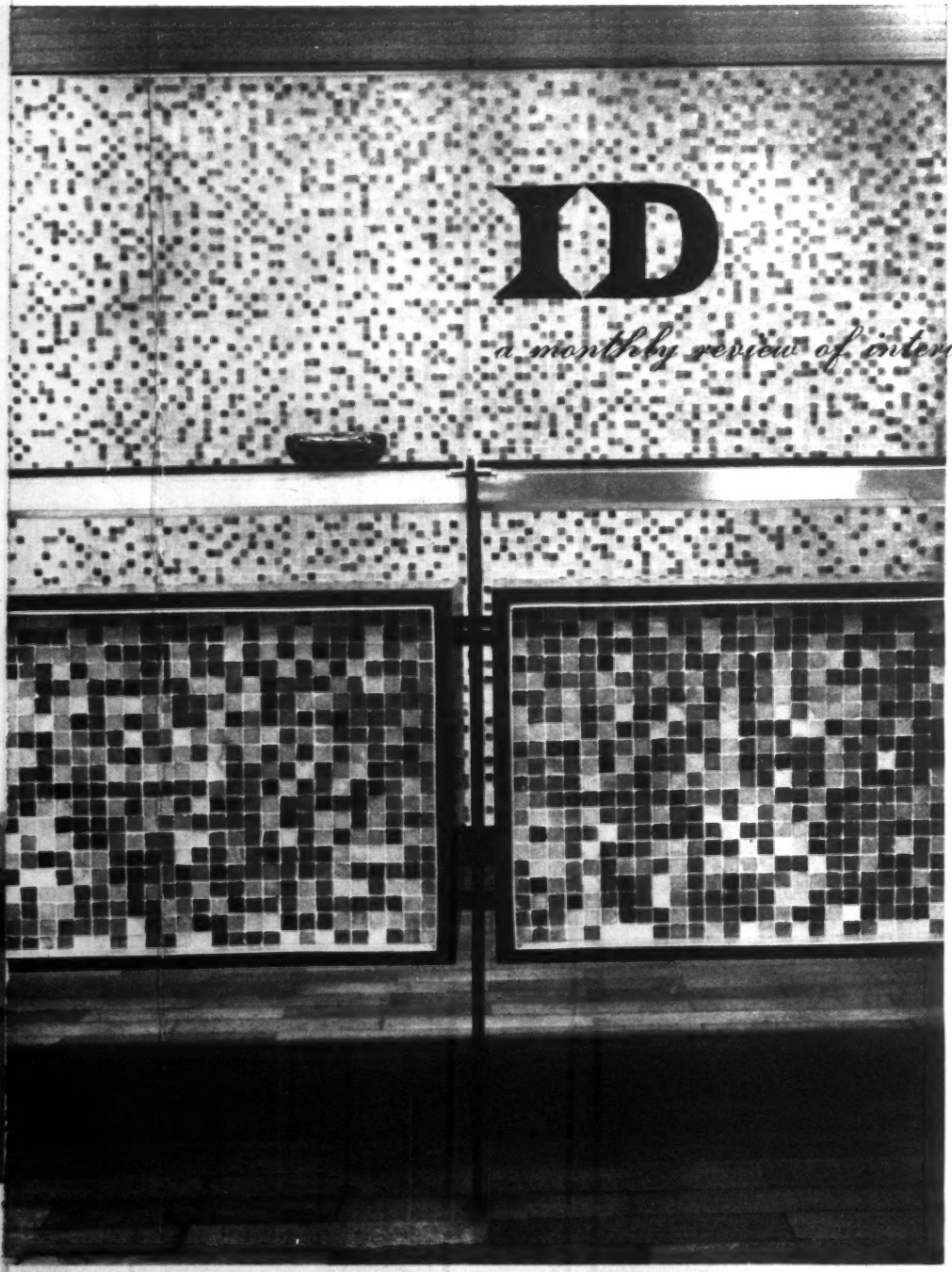
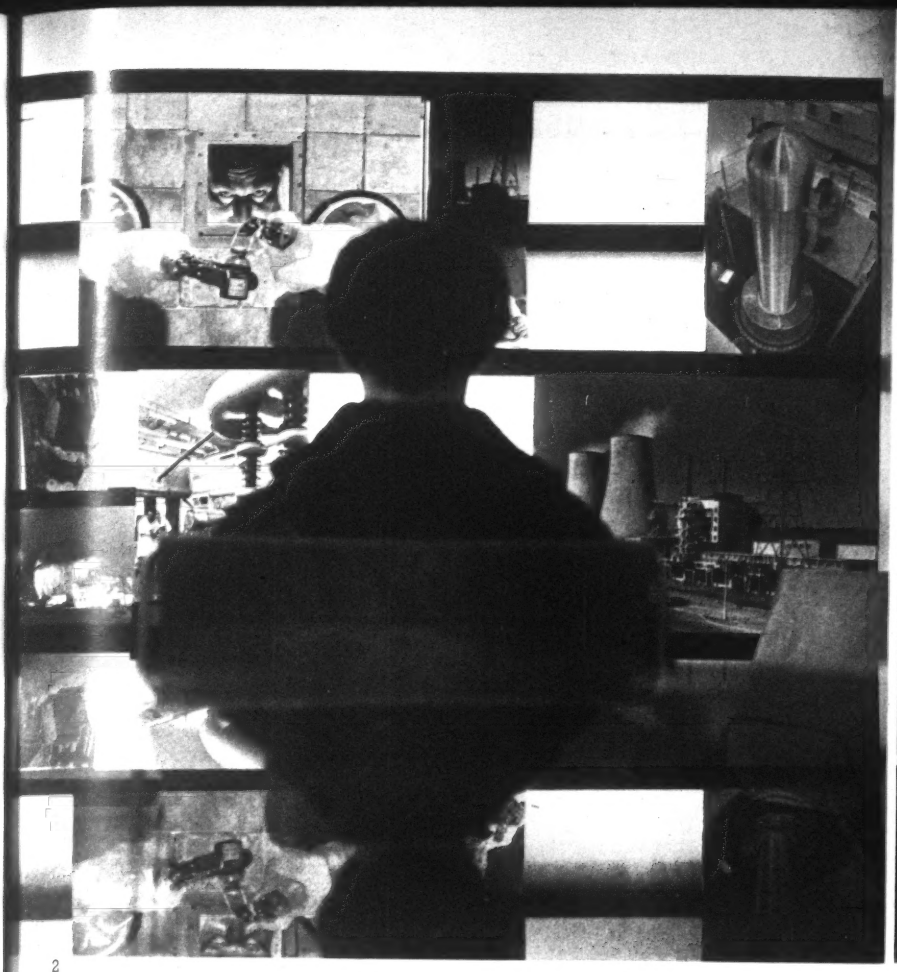


ID

a monthly review of interior design

1, mosaic-fronted counter in the Atomic Energy Authority's offices.



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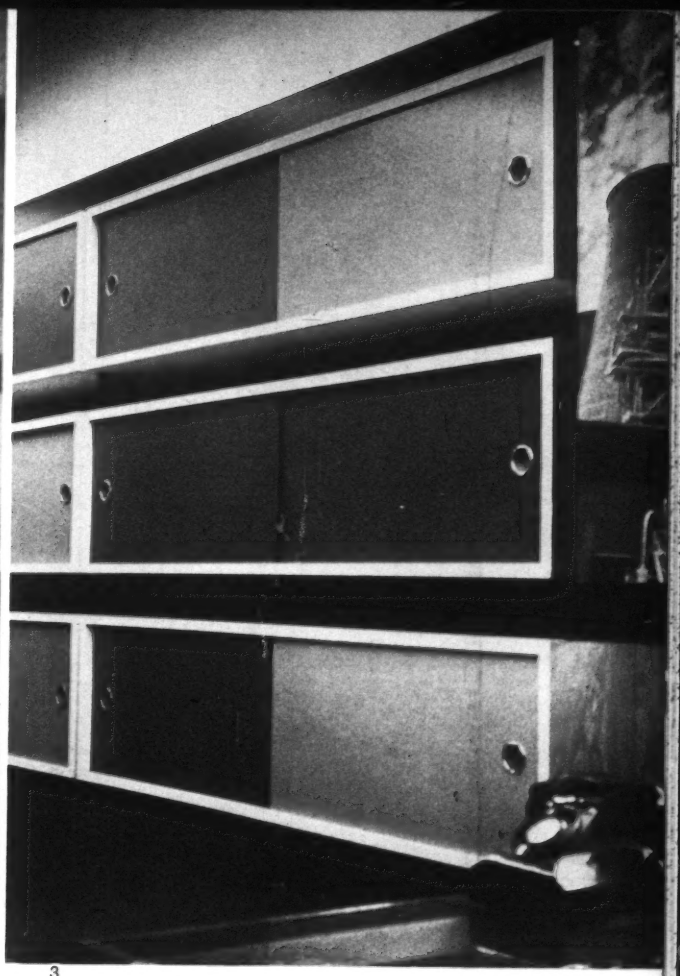


3

Offices in Charles II Street

Designer: Kenneth Grange

These offices in the Atomic Energy Authority's new building off the Haymarket in London contain the information and photographic libraries and are the only part of the building accessible to the general public.

opposite, detail of the counter front, with glass top supported on aluminium alloy rails. The other metalwork is black mild steel; the counter front and the screen behind are faced with mosaic on blockboard.

At the far end of the office is a metal frame designed to carry a display of photographs of varying sizes.

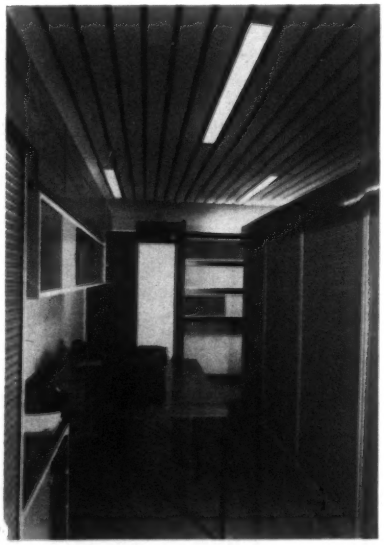
to the left of the photograph display, the metal racks carry cupboard units faced with stove enamelled hardboard.

the information counter near the entrance. The screen separating it from the private office area has two windows, one for observation when seated, the other when standing.

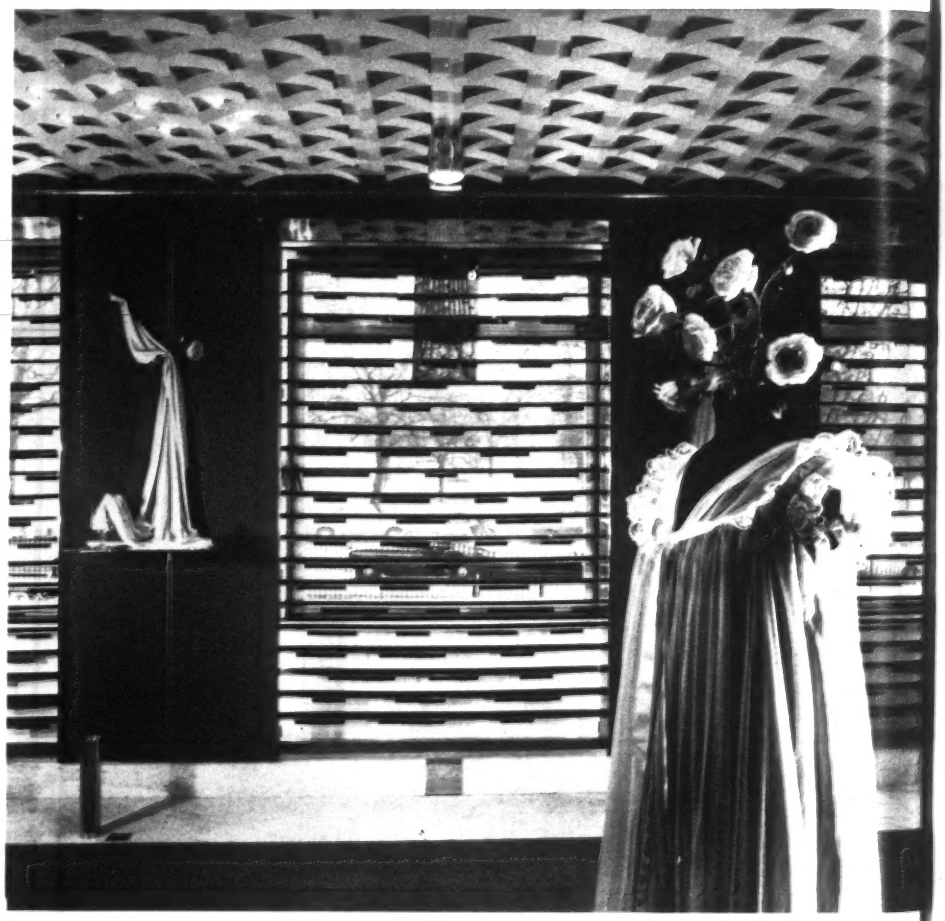
4

5, the back of the counter, with specially designed storage racks protected by a roller shutter.
6, general view from the entrance looking towards the photograph display. The glass screen deflects visitors towards the counters on the left.

7, the photographic library office. The storage units on the right form the back of the mosaic screen seen in 1. The ceiling is of fibrous plaster, with slots for artificial ventilation and purpose made fluorescent fittings.



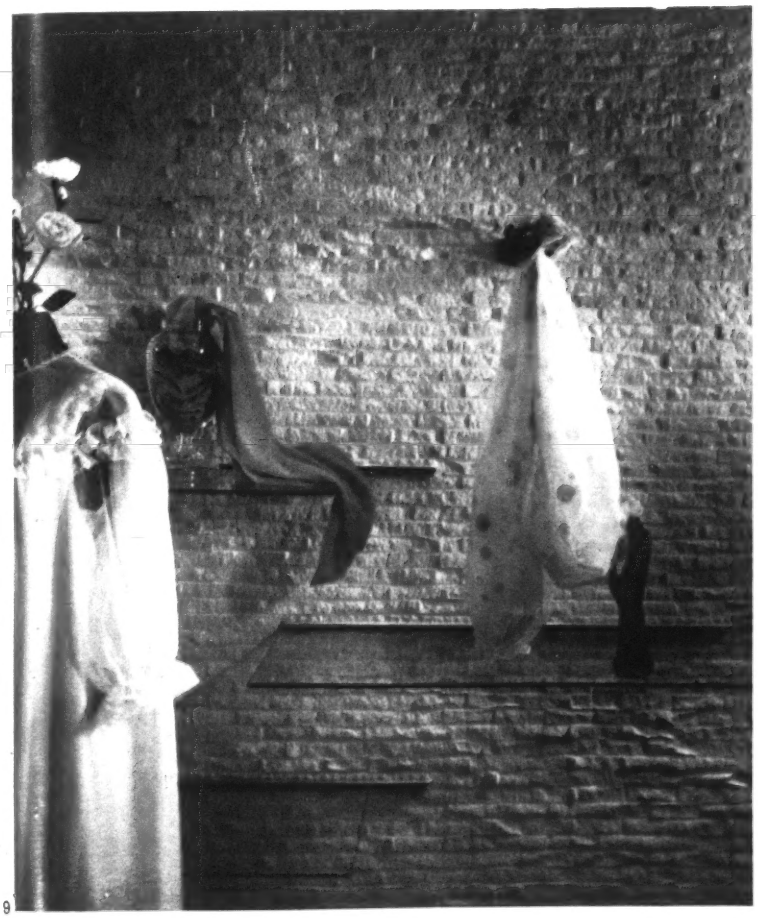
The fabric of the building was designed by Trehearne and Norman, Preston and Partners, in association with Norman and Dawbarn.



Showrooms in Knightsbridge, London

architect: Dennis Lennon

These showrooms on the first floor of Bowater House, Knightsbridge, were designed for the display of nylon goods and occasional use for fashion shows, with a reception area serving both the showroom and the adjoining offices. All the furniture and fittings were specially designed by the architects.
8, the windows are screened with slatted aluminium and blue perspex blinds which slide behind blue, nylon-covered panels on the walls. The louvred aluminium ceiling conceals batteries of small lights and spotlights.
9, the end wall of the showroom is of Italian white marble briquettes, with plate glass shelves slotted into it.
10, general view of the showroom, showing the semi-circular display stand covered in black velvet on the left. The wall on the right is panelled in blue leather and contains a nylon cloth index library.
11, lobby panelled in white marble.



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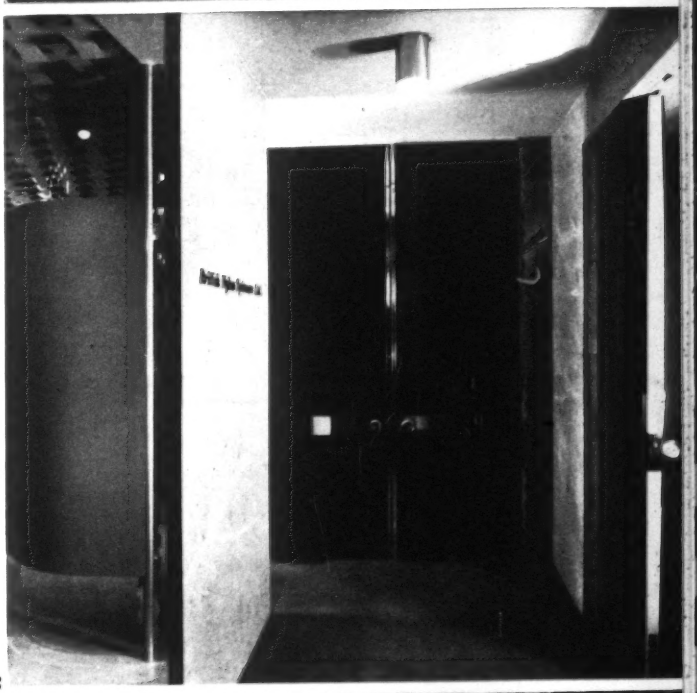

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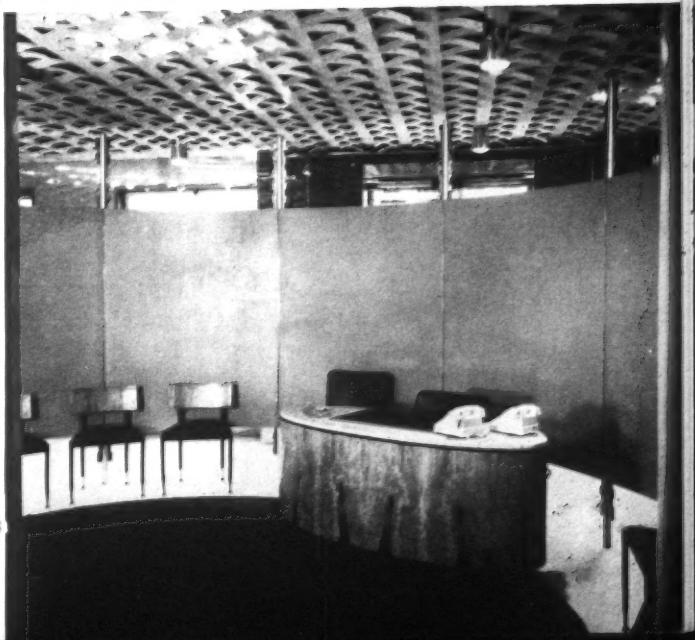
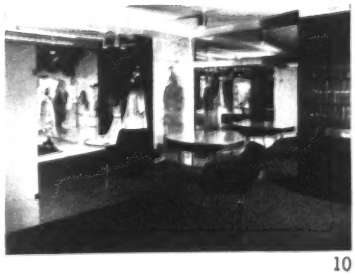


13

12 blue leather doors leading into the circular reception area.

13 the panels enclosing the reception area are covered with natural leather, with plate glass panels at the top, and are carried on brushed steel and polished brass rods. The white marble floor continues into the showroom. The oval desk is of yew with a white marble top ; the chairs have yew backs and seats of blue nylon velour.



10

DR

design review

Timo Sarpaneva

Timo Sarpaneva, the Finnish designer, is still only in his early thirties but he already has a dazzling record of international success. He is best known in England for his glass for Iittala but he is also a talented and unconventional graphic and textile designer and an exhibition planner.

Woollands (in collaboration with Conran Contracts) put on a stimulating and memorable exhibition in February of his textiles and glass. The fabrics are variations on broad bands of miraculously blended colours and related tones, as much a revelation of the masterly use of simple colour as the Finnish rugs shown at the V and A last year. They must be handled to be appreciated and this can be done at Woollands and Conran Fabrics.

1, *a selection of the glass is shown below. The pieces range from the larger decorative vases and jugs like the tall conical one in the centre with the heavy base, costing £7 13s. 3d., and the practical carafes in thin glass costing about 27s. 6d. each, to the smaller glasses and bowls. These are for everyday use and cost from 36s. 6d. to 65s. for six, depending on size and shape. The colours are clear, grey, purple, olive and steel blue. All the designs have a mathematical assurance of line difficult to associate with the fluid state of molten glass and evidence of brilliant technical skill.*

Heal's Fabrics

In Heal's fabric collection there are roller printed cottons, not always exciting, but good value at 11s. 9d. and 13s. 6d. a yard, 48 in. wide. Several are the work of young designers, and it is characteristic of the firm that they are all given full credit.

2, *the handscreen prints are not so successful, but 'Nebula', designed by Betty Middleton-Sandford, is outstandingly good. There is only one colourway; close toned blue, green and purple printed on white textured cotton, presumably carrying out the designer's original intention. It costs 21s. 9d. a yard, 48 in. wide.*

This is a rare instance of a good fabric design derived from the work of "Tachist" painters.

Tachism relies on texture and contour as well as colour for its impact. Any attempt to translate such a technique too literally on to light cotton, use it as a repeat and then drape it into folds is dangerous. The close-toned arrangement of colours sparingly used on a clean white background give this design depth and sparkle. The repeat, though clearly defined, is sufficiently restrained to produce an all over pattern which drapes well.

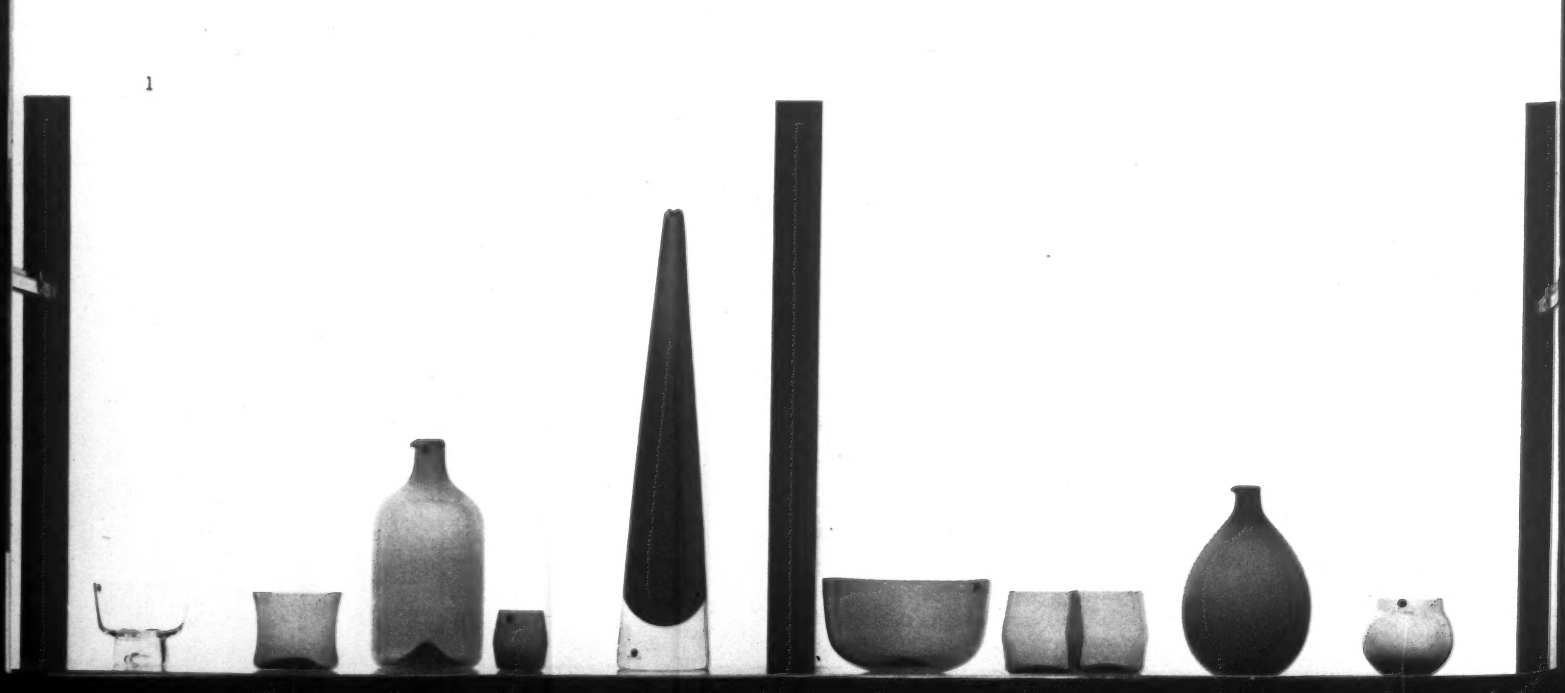
3, *another example of the same feeling is 'Pavonian Spray' by Gordon Dent. The design is printed on cotton in subtle versions of olive green, dark red, purple and blue and the fabric costs 24s. 9d. a yard.*

Here 'tachism' has become confused by an uneasy hint of naturalism and the design, though pleasant enough by virtue of the richness of the colours, appears false by the insistence of the repeat.

2

3

1



ELMES

DAVID WAINWRIGHT

Harvey Lonsdale Elmes is famous for St. George's Hall in Liverpool, but his Shaw Street school is less well known. Whatever its merits as architecture, it involved Elmes in wrangles over professional status and responsibility that reveal much about himself and the position of architects in early Victorian England.

The quality of St. George's Hall, Liverpool, as a notable piece of Victorian Renaissance design is unchallenged, though its architect, Harvey Lonsdale Elmes, was only 24 when building began in 1838. He had trained in Bath and his office was in London, at 11 Park Street: but his sudden reputation naturally brought him several commissions locally in Liverpool for suburban houses.

Two years after he won the competition for St. George's Hall he entered for another competition for another public building in the town, but one of a very different style.

In the summer of 1840 the committee of the Liverpool Collegiate Institution advertised for a design for their new school. Space was needed for three schools, Upper, Middle and Lower, the boys of which were to be rigorously segregated so that the delicate natures of the Upper School boys might not be contaminated by the influence of the robust sons of the working classes in the Lower School (their parents were similarly kept apart at official functions in the Lecture Hall).

The Instructions to Architects stipulated that the building was to be of red stone, encased in bricks, and 'in the Tudor style of architecture.'. Partly this rule was due to the common Victorian belief that Gothic was proper for educational establishments; partly to local feeling that Liverpool—whose maritime prosperity had flowered within the century—ought to fulfil its want of a good representational Tudor building; and partly to the success of Charles Barry's New Street design for King Edward's School, Birmingham, which had been opened two years previously.

Elmes won the competition, his motto on the plans and on the sealed envelope containing his name being 'Tria Juncta in Uno' in a triangle. Second prize was awarded to Messrs. Scott and Moffatt. But Elmes's relations with his clients were far from happy. With a certain youthful impetuosity he seems to have compromised himself over the arrangements for the building of St. George's Hall: and the contemporary Minute Books of the Liverpool Collegiate Institution's Board of Management* show that he was forced to use every weapon in the armoury of his professional probity to try and extricate himself—and then he failed.

There is no suggestion that the Board, of which the two Rectors of Liverpool were Chairmen, acted other than with strict honour. They had a narrow budget on which to plan, and indeed incurred a debt of many thousands of pounds which it took twenty years to wipe off. Perhaps, again, they were aware of the situation at Birmingham, where Barry's building, however triumphant architecturally, had put that school into economic doldrums.

For the erection of the schools a limit of £15,000 had been set. The Secretary, John Gregory Jones, wrote to Elmes on 23 July, 1840, to tell him that he had won first prize 'provided you can shew them, as you purpose, by a detailed estimate, that it can be executed for the sum of £15,000.'

Elmes replied by return of post that he would be happy to supply such an estimate: 'but before entering into an elaborate calculation of that kind I am desirous of knowing whether it is the intention of the Committee to employ me in the usual manner to superintend its execution.' If that were so, he went on, he would like his drawings back to prepare the estimate.

The Secretary wrote back that he was putting Elmes's letter before the Board; and he asked whether the architect could dispense with any of the drawings, as they were wanted for public exhibition. Elmes replied that he needed all of them except the perspective view of the exterior.

But his letter crossed with one from the Secretary, rather abrupt in tone. 'I am directed by the Building Committee . . . to state . . . that until the first Premium has been positively awarded they do not consider themselves authorized to enter upon further arrangements, and that all which they require from you is, such an estimate as may guide them to that result.'

Elmes kept his temper. Within two days he had put in the post four and a half pages of cold logic, suggesting that 'some practical man in Liverpool' should be asked whether he thought Elmes's building could be put up for the price. The suggestion was imprudent. By it he gave his sanction for local interference, if only in one aspect of the case. But he concluded: 'If the Committee so far approve my design as to honor me with their further commands I will *then* make such an Estimate as shall not only satisfy them of the amount but on which I would then willingly stake my professional character. And if it is found *necessary* I could thereupon consulting with them make such modifications in it (without destroying its general character) as should bring the amount within their means. In this case I should of course forego all claims to the Premium . . .'

Four days later a Liverpool surveyor, Edward Argent, presented a rough estimate

* Quoted here by permission of the Headmaster and Council of Liverpool College.

of £14,870 for the work. Thereupon the prize was formally given to Elmes.

Early that August he was in Liverpool, in connection with St. George's Hall. Samuel Holme, a retired builder and railway financier who was a member of the Board of Management, saw him at the request of the Board. They discussed terms, and Elmes subsequently stated those terms in another letter.

'The usual charge for working plans, specifications and superintendence are 5 per cent on the outlay and travelling expenses.† Mr. Holme, however, explained to me that although he was sure the Committee desired to treat me liberally and honourably, yet their means are at present confined in proportion to their proposed expenditure. He also mentioned the circumstance of distance as somewhat objectionable. I therefore shall endeavour to meet the views of the Committee as far as lies in my power and am willing to undertake the superintendence of it for 5 per cent on the amount of the Contract and pay my own travelling expenses. I must say I object entirely to preparing working drawings and specifications without having the entire superintendence especially of a public work. . . . These are my definitive terms. . . .'

Then follows this curious offer: 'If the Committee honour me with the superintendence of this building, I shall be most happy to place my initials H.L.E. in the list of subscribers or donors for £100. But I can on no account whatever do an injustice to my professional brethren by undertaking business at anything under the usual terms.'

A sub-committee appointed specifically to come to an agreement with the architect determined to answer money with money, and Elmes was informed that £105 had been lodged in his account at Messrs. Roberts, Curtis' Bank, being the prize of 50 guineas and an extra 50 guines 'as a presentation from the Committee as a mark of their appreciation of the talent displayed in your design for their intended Institution.' But this could not ameliorate their decision not to accept his terms and to make other arrangements.

Elmes wrote back immediately thanking the Committee, but stating that he felt that his professional character would be affected if his building were handed to someone else to put up, and requesting the return of his drawings. 'I entered this competition . . . with the firm conviction that the successful competitor would be employed in the usual manner. But if the Committee can find any other persons who will wilfully degrade their profession by acting as I have refused to do, I must willingly retire from such a competition.'

On the day the Board in Liverpool received this letter, they were already putting the work in hand: the same Edward Argent, surveyor, who had earlier been employed to estimate costs, was taken on at two-and-a-half guineas a week 'to make working drawings, specifications, etc., for, as well as to superintend the erection of the intended building.'

As they came to this decision Elmes was putting pen to paper for his heaviest broadside.

† This is borne out by Barry's terms at Birmingham.

'The Committee must be aware that if they had employed at first, without competition, a respectable Architect in Liverpool, to design and superintend a building for them, they would have been called upon to pay him his fair and usual professional remuneration. Why then let me ask do they expect an Architect at a distance of 200 miles not only to incur travelling expenses but to undertake the work at less than the usual remuneration, or what is worse to leave the execution of the work to persons perchance devoid of all taste and probably ignorant of every true principle of the art. . . . I will rather submit to the loss of professional employment for years than I will undertake any building without having the entire superintendence and control of its execution.

'As my name has now appeared in the public prints as the successful competitor I think it right to inform you that I intend publishing your last letter and my answer, in defence of my professional character.'

He enclosed with this letter a paper written in protest by the architects of Hamburg in 1836, when the Senate and Burghers of the city offered a competition for an Exchange, and reserved to themselves the right not to employ the prize-winning architect.

Unmoved by their architect's arguments but pricked by his comments, the Committee passed a resolution that Elmes had used expressions reflecting on the conduct of the Board 'which were unjust and uncalled-for.' Meantime they took legal advice on whether they might retain the drawings.

They further brought up the precedent of St. George's Hall. In that case 'you acted otherwise. You prepared a detailed estimate.' The Board of the Liverpool Collegiate Institution were well aware of their facts: their chairman, Rector Jonathan Brooks, had been chairman of the St. George's Hall committee at the time. 'The Committee have not acted without precedent. In the case of the Middlesex Lunatic Asylum, an architect of the name of Alderson was the successful competitor, but the Middlesex magistrates did not employ him.

'It was gratuitous on your part to insinuate that the Committee had any intention to "degrade your profession" or to add that "you most willingly retired from *such* a competition." Indeed under the present circumstances you can hardly consider yourself badly paid by the award of £55 beyond the stipulated premium when, as you stated, the drawings only occupied you a few days and were almost entirely the work of your own hands.'

That letter closed the correspondence. The foundations were excavated, and the foundation-stone laid with much civic and ecclesiastical pomp by Lord Stanley, 'the Rupert of Debate,' on 22 October, 1840. In the six weeks from the date he received the Committee's ultimatum, Elmes must have decided to make the most of a bad job: to superintend the building as best he could on his visits to Liverpool for the paid purpose of assisting in the erection of St. George's Hall.

He was, at any rate, sufficiently reconciled to attend the ceremony that October: and he listened, with what inner feelings one can only guess, to Rector Brooks inform the gathering in Shaw Street that 'it has so happened, by the regulations adopted, that it does not fall to the lot of this gentleman to carry into execution the plans he has furnished; and in justice to him, I have been requested by the committee to make this public statement, that the reason why he has not been entrusted with the future care of the building, was in consequence of the committee feeling that, as trustees of an institution of this nature, and with the means they possess . . . they would not have been justified in going to the extent of his claims as a remuneration for his services. They could not but acknowledge that his motive in making that claim was one deserving of great commendation: he did not feel authorized to break through the known rules of his profession.'

A footnote in the printed programme of the day records that 'Mr. Elmes has since offered, in the most honourable and handsome manner, not only to furnish working drawings for those portions of the edifice which affect its architectural character, but to superintend their execution free of all charge.'

Liverpool had most certainly beaten him. He made his final offer, he wrote, 'because I fear when (the building) is finished and publicly criticised, I shall be obliged in self defence to repudiate it, a course I conceive attended at all times with unpleasant if not ill feelings, and which may now ere it is too late be avoided by the Committee placing that part of the structure only under my care'—'that part' being the principal front upon which all the detail was concentrated.

This was all agreed: but the Board and the Committee in Liverpool went on chopping and changing their internal plans, even where they affected the principal front. There is no record of Elmes's reaction to the final letter in this correspondence, in which the Secretary announces that they are dispensing with two small windows shown on the plans, so that the walls flanking the central doorway can be thickened 'for the purpose of sustaining a central tower should it be subsequently determined to erect one.'

The schools were formally opened by William Ewart Gladstone in January, 1848. Four years later Elmes was dying in Jamaica. He saw the completion of the Liverpool Collegiate Institution, over which he had encountered such trouble: but he did not live to see St. George's Hall finished, his finest memorial.

The Liverpool Collegiate School now occupies the Shaw Street building which Elmes designed—an amalgamation of the two lower schools of the original foundation. The Upper School, under the name of Liverpool College, abandoned the crumbling heart of the city after only 40 years for a more salubrious suburb.

Elmes never publicly repudiated his part in the building. But time has been kind to him. St. George's Hall sits massive and monumental on its plateau, the first Liverpool building, and the finest, seen by those arriving on Merseyside by rail. Only duty takes one to admire the Collegiate Gothic facade in a back street, gloomy with the grime of a hundred years.

1, *the central dome of the southerly group viewed across the lily pond.*

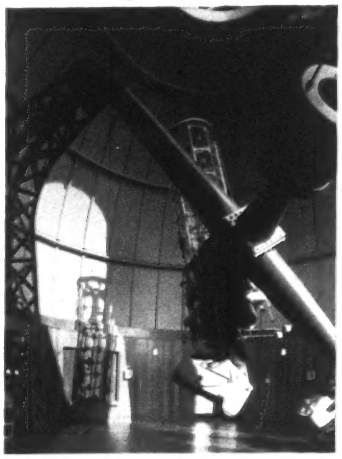
ROYAL OBSERVATORY AT HERSTMONCEUX

ARCHITECT: BRIAN O'RORKE

The Royal Observatory has been moved from Greenwich to Herstmonceux to avoid the increased interference with observations caused by street lighting and atmospheric pollution. In the existing castle are offices, library, conference room, staff canteen and a residence for the Astronomer Royal. New buildings include the Meridian and Equatorial Groups, the Time and Nautical Almanac Building and a works pound with boiler house and garage.

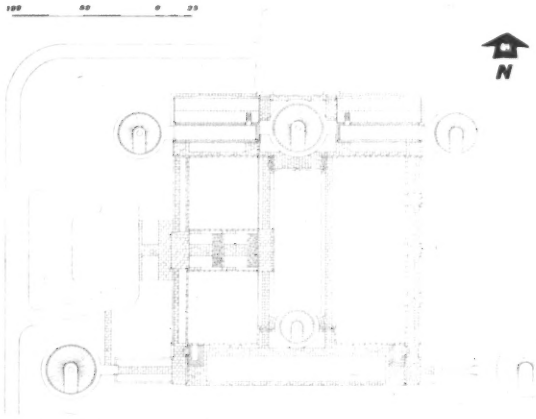
The Equatorial Group consists of six domes, set on high ground east of the castle. The general design of the domes

2, *six domes of the new Royal Observatory with the laboratories in the centre.*



3, *interior of the north dome housing the 36 in. Yapp reflector.*

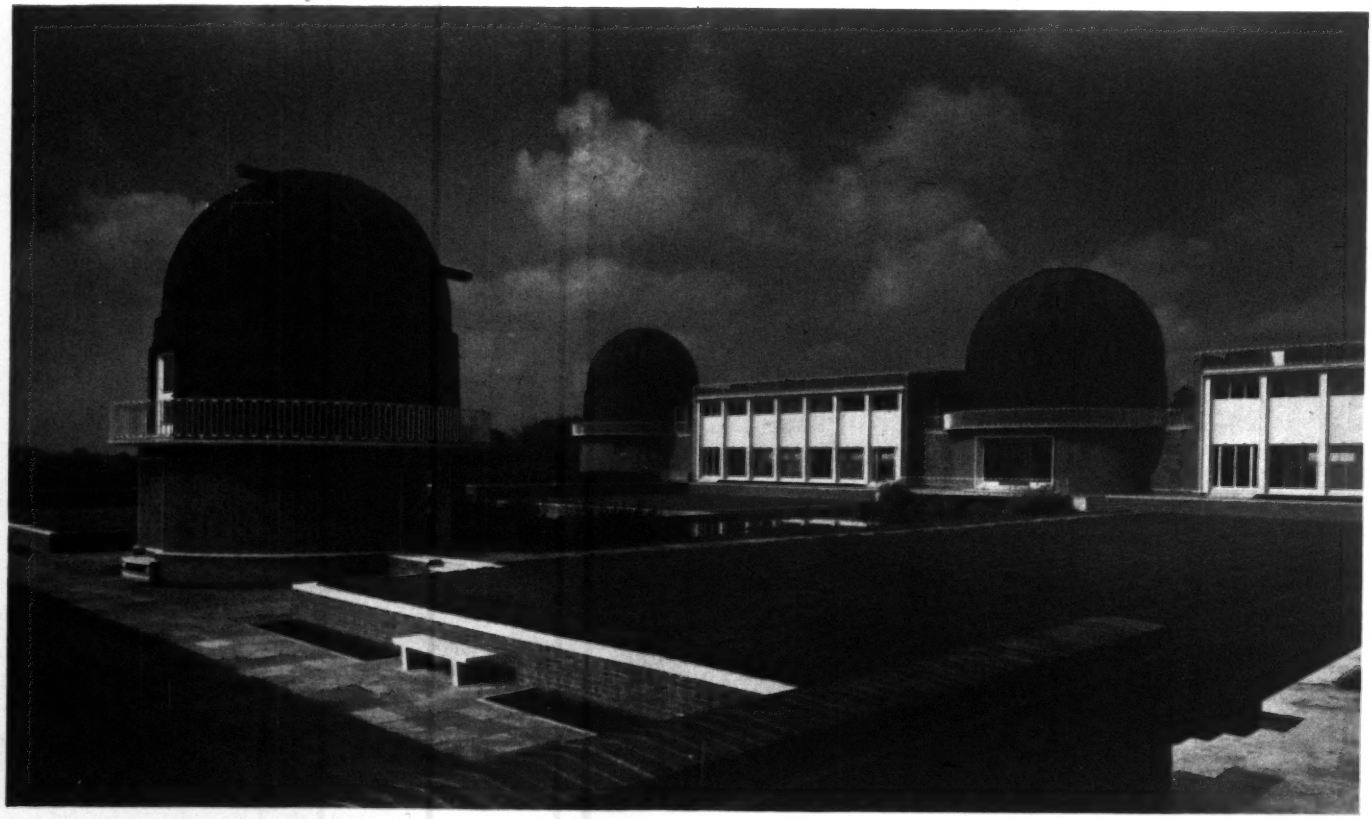
Royal Observatory at Herstmonceux



layout plan

is similar but diameters and floor levels vary. Deep foundations are carried down independent of the buildings. The construction up to floor level is of reinforced concrete with brick facing, with a cavity between. The dome drums are in light steel faced on the outside with copper on boarding and internally with removable vertical board panelling. The revolving domes are framed-up with steel tube horizontals and channel ribs to which wood grounds are fixed to take a sandwich covering of super hardboard with glass fibre insulation and copper covering. The linking buildings are steel framed with double cavity walls and the windows along the south side have counter-balanced sash louvred metal shutters. The buildings are faced with traditional Sussex wood-burnt bricks with blue-grey headers and the balconies, copings and window surrounds are in Portland stone.

4, *laboratories and dark-rooms seen from the south.*

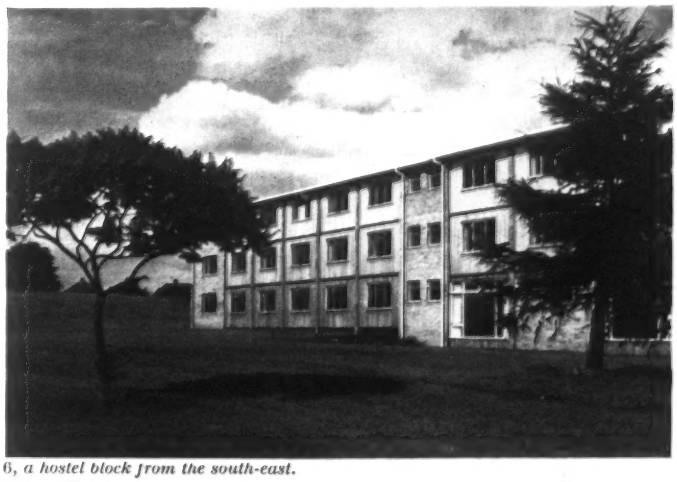


5, one of the halls of residences seen from the east; infill panels are of cedar boarding.

TEACHERS' TRAINING COLLEGE AT COVENTRY

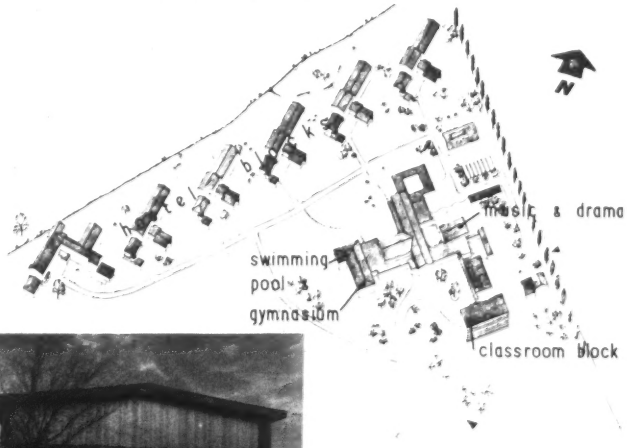
ARCHITECTS: W. S. HATTRELL & PARTNERS

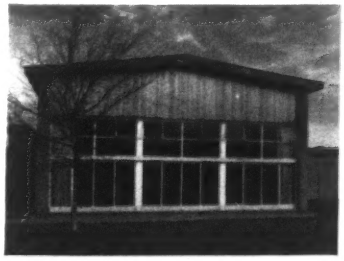
This teachers' training college is at Canley, south-west of Coventry and has been built at irregular intervals since the war to replace the temporary buildings originally used. One hall of residence accommodates 75 students and 6 staff, with five smaller halls, each for 45 students and 3 staff. These halls are of three storeys, with study-bedrooms facing east or west, and with a laundry room, kitchen and bathrooms on each floor and a common room, workroom and small room for entertaining on the ground floor. The blocks are of cross wall construction with floors of prestressed r.c. planks and hollow blocks, and timber felt-covered roofs. The infill panels are of cedar boarding and the ends of the cross walls are faced with Hornton stone. The classroom block is of unit construction on a 3 ft. 4 in. grid, with opaque panels in glass curtain walling.



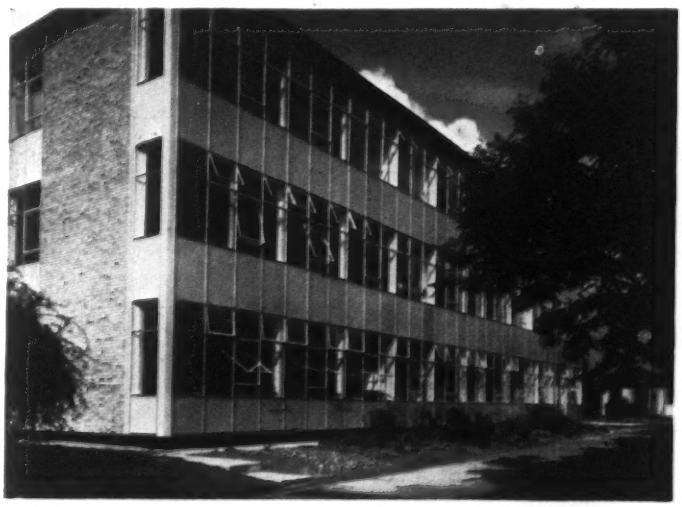
6, a hostel block from the south-east.

7, class-room block with glass curtain walling.





8, exterior of the music and drama block.

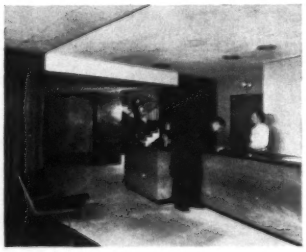


9, entrance façade with the main office block on the right.

OFFICES IN KENDAL

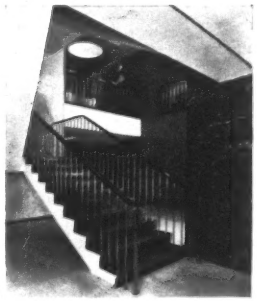
ARCHITECTS: RAMSEY, MURRAY, WHITE AND WARD

This building, in Stramongate, a stone-built town in the Lake District, forms the first part of the extension of the head offices of an insurance company. To avoid conflict with the scale of the surrounding buildings it has been set back from the road to appear as a tower rising behind the street facades. The central core of the building is formed by a nine-storey artificially ventilated filing stack contained in a fireproof concrete shell and with a floor-to-ceiling height of 7 ft. 6 in. One wing to the south-east contains four floors of offices, another to the north-east contains cloakrooms, offices and the directors' dining room and kitchen. Suspended ceilings of acoustic tiles mask electrical conduits and allow the fluorescent fittings to be fixed flush. Floors are of wood blocks except in the entrance lobby, where nabresina marble is used. The walls of the entrance lobby are glass mosaic with black bean timber linings; staircase walls and floors are faced with off-white terrazzo. Externally the facing materials are Portland stone and Westmoreland green slate. Window frames are aluminium.



10, *reception desk in entrance lobby*

11, *main staircase from the entrance lobby.*
12, *view from the directors' dining room on the top floor.*



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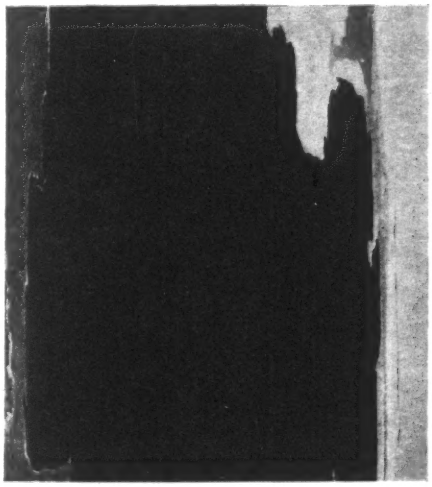
12

EXHIBITIONS

PAINTINGS

If the spectacular exhibition of The New American Painting recently held at the Tate Gallery under the auspices of the Museum of Modern Art and the Arts Council is anything to go by, there are no spectacular new developments to report since we were shown examples from the Museum's own collection in 1956. The new selection was devoted to the work of seventeen artists—five more than in 1956—and no more than three or four of the canvases have been here before. The painters who stood out as leaders in the earlier show have not lost any ground, but one of them, Clyfford Still, seems to have rejected his own fame: he has not held a one-man show since 1951, and was not represented at the Tate by anything later than the famous 'Painting, 1951,' 1, which is one



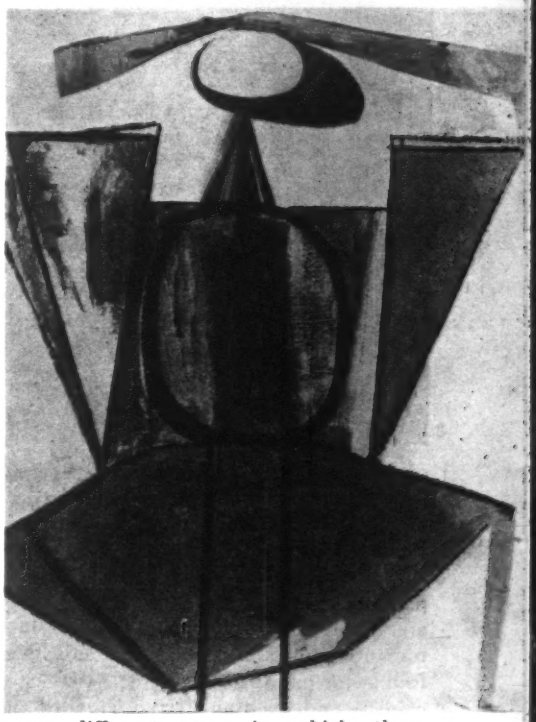
1

of the pictures that has been here before. Built entirely for forceful confrontation, and carrying only unintentional messages, it remains a typical product of the movement.

It was Clyfford Still who, a few years back, remarked that 'from ancient times the artist has been expected to perpetuate the values of his contemporaries,' and who thought that things like 'Painting, 1951' constituted an unqualified refusal to go on doing so. He was mistaken; and no doubt his refusal to exhibit reflects his dismay at having become one of the honest Abes of The New All-American Painting. It's a bitter pill for him to swallow, but it is now only too evident that his kind of painting is just what a large, rich, naïve civilization, clinging to the myth of the individual and operating the biggest entertainment industry in the world, might expect its 'fine art' to be. Whether the artists like it or not, their work has been turned into a National Asset, and these big, strong, uncommunicative paintings have become posters, advertising America's 'spiritual values' in a properly spectacular way.

Of the five artists who were not exhibited in 1956, Barnett Newman, Adolph Gottlieb, Jack Tworkov and James Brooks are all over fifty years old, and each of them adds his portion of 'rugged individualism' to the movement, without being in the slightest degree disruptive. The fifth, Sam Francis, who works in Paris and for that reason is better known here than any of the others, is only thirty-six. His placidly beautiful 'Big Red,' painted in 1953, was the largest picture in an exhibition of large pictures: but his work has a quiet, monotonous refinement, and if his exhibits had been typical the show would have been just about as interesting as the room of Indian carpets at the V and A. He can cover a large canvas as nicely as anyone, but his 'cellular' approach means that size does not really present him with a challenge, and his work lacks the tension, the large gesture, the sense of adventure that gives the paintings of his seniors their spectacular qualities.

We are not likely to see any very radical changes in the work of the men who created the movement. As Alfred H. Barr says in his excellent catalogue preface, 'the artist's concern with the actual painting process as his prime instrument of expression . . . tends to eliminate imitative suggestion of the forms, textures, colours and spaces of the real world;' and as a matter of fact the latest exhibition strengthened the impression one had in 1956 that when references to other realities appear in these works they always bear the look of a facetious or muddled intrusion, and invariably weaken the impact of the paintwork. In this respect, I have in mind the fanciful figures of Baziotes, the fragments of impressionist appearance in Hartigan, de Kooning's satirical images of women, and in Robert Motherwell's 'Personage with Yellow Ochre and White,' 2, painted in 1947, the almost stupid reference to the many studies of a woman seated in a chair, made by Picasso in 1938. But in 1947 the movement was in its infancy, and Motherwell is not likely to make such a tactical error again. It wasn't particularly fair to him to put it in the show, but it served as a sample of the

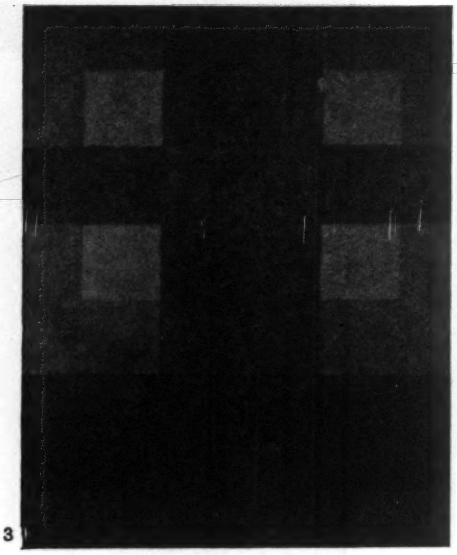


2

many different ways in which these painters were working before they decided to put all their faith in paint performance, and it provides a partial explanation of the remarkable differences between the work of one painter and another. Each man's work seems to carry, however obliquely, the impress of his previous figurative and visionary preoccupations. This applies, at any rate, to the older generation. A younger man like Sam Francis hasn't the same background of figurative struggle: he has been an 'abstract expressionist' since his student days, and his work hasn't anything like the same impact as that of the older men. There are now hundreds—literally hundreds—of young painters attached to the movement who have never been anything but 'abstract expressionists,' but what little one has seen of this vast acreage has been far from impressive and much inferior to the work of Francis—which suggests that this kind of activity is now merely an aspect of American behaviour.

It begins to look as if 'abstract expressionism' considered as a serious art form is primarily the contribution of one generation of Americans.

Perhaps the work of a young painter like Ellsworth Kelly—a few samples appeared in the USIS Gallery in Grosvenor Square a few weeks ago—is a sign of the way American painting may start 'communicating' again. Kelly makes large but abstracted references to the American



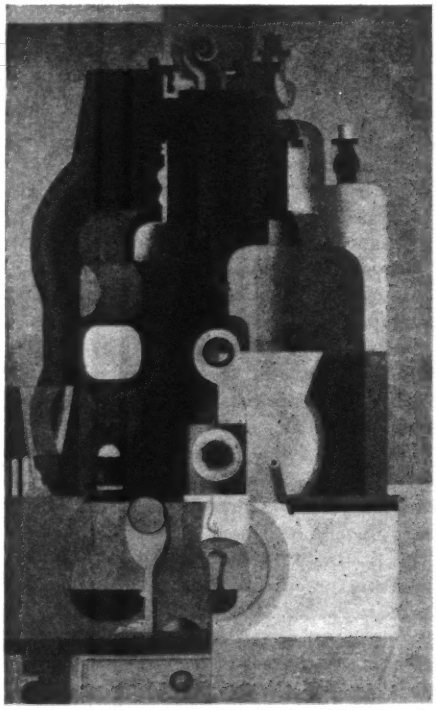
3

scene, 3, and at the same time very severely disciplines his paint performance. Furthermore he has a sense of monumental scale that enables him to paint small pictures without losing face, and to paint large pictures that look even larger than they are. He appears to have slipped back into romantic puritanism, but he retains the feeling for painting as spectacle that is so evident and exciting in the work of the abstract expressionists.

The Purist paintings by Le Corbusier included in the touring exhibition which came to the Building Centre were, like some of the buildings recently described by Professor Pevsner, in need of care and protection, and it is to be hoped that they will soon be in the comparative safety of public galleries. They are his best contribution to painting.

Little was said about them at the time of the show, but Reyner Banham made an interesting reference to them: 'The invention of Purist painting is clearly the work of the sophisticated mind of Ozenfant, but its best pictures are all the work of the ready hand of Charles Edouard Jeanneret.' This is true in a way. It's true that the best pictures are by Jeanneret, but not because he had a *ready hand*. Ozenfant put the theory into practice lightly, brilliantly and with a very ready hand. He had a perfect grasp of his own theory and knew exactly what he wanted to do. Jeanneret, on the other hand, had to grope his way into an understanding of it, and there are signs of the struggle of a simple but true painter in the earliest examples, signs that it was only in the act of painting that he could discover what the theory demanded of him. Some of these very early works, in which he couldn't bring all the objects on to the picture surface, and because he thought they had to have somewhere to stand, made funny little pockets of space for them, must have sent Ozenfant round the bend, but I find them as moving and precious as the first cubist works of Gris.

It is worth remembering that the Purist experiment occurred immediately after the first world war, when very few artists were in the 'dada' mood, and feared even the great pre-war period of cubist experiment. The desire for some sense of security led to general reaction under one of those calls to order which usually designate fear. Picasso himself gave the lead, and although it was an extremely equivocal one it led to various kinds of neo-classicism. Purism was involved in this neo-classical revival, but it was, to my mind, an outstandingly intelligent and constructive aspect of it. It was an attempt to reassert the importance of the objective world without sacrificing the formal discoveries of the cubists, and at their best Ozenfant and



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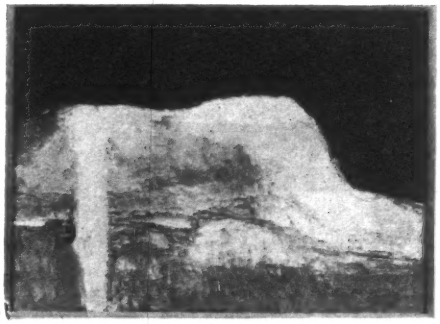
Jeanneret created a serene and stately pictorial architecture that was completely contemporary in spirit.

Jeanneret's contribution to Purism was curious. It is the work of a follower, but the pictures have greater presence than those they emulate. He was more human than Ozenfant in his pursuit of purity; far less immaculate. There is something of the solemn child and something of the alchemist, in the way in which he became totally absorbed by a magic formula for putting common objects above themselves, and patiently built up a masterpiece like this still life of 1922, 4.

I go to many shows, and sometimes I scribble an odd note or two on the catalogue, but they hardly ever prove to be useful because they reflect a day-dreaming



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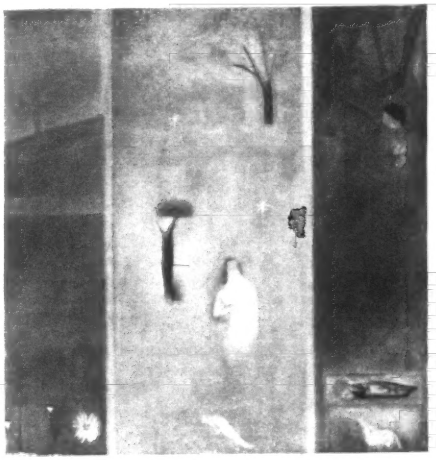
state of mind in which the pictures are treated as extensions of reality. About Peter Kinley's 'Nude,' 5, which was one of the handsomest pictures in the Arts Council show of recent CAS purchases, I wrote: 'Would have to scrape off paint to see what girl is really like,' and I found that I had much the same thing to say about the latest batch of Bratbys at the Beaux Arts: 'What a fearsome world! There's paint over everything!' At Tooth's mixed show of English work, I didn't have anything to say about the pictorial values in Sickert's delightful little oil of

6

'The New Bedford,' 6, but simply noted that the statue between the two boxes was more real than the people and looked as if she were about to walk across the auditorium on a wire. Craigie Aitchison, whose one-man show preceded Bratby's at the Beaux Arts, gave me the rare and presumably reactionary pleasure of being able to forget the performance of the paint. I have no doubt at all that it was performing very adroitly but I was too absorbed by the images it projected to notice it. Aitchison paints flowers as if



they have minds of their own, and quite clearly has a preference for those rather naïve yet slightly sinister beauties who start life in an ordinary bourgeois garden but take to reading Baudelaire and Rimbaud and get it into their lovely heads that they smell of incense. His curious, pale, tenuous 'Triptych,' 7, has a genuinely devotional air, yet the more I look at the centre panel the more it seems—with its witches' tree and will-o'-the-wisp stars and naked women emerging from nowhere—to be the prelude to a long, wakeful night for St. Anthony.

Robert Melville

1, typical clutter of street furniture in Magdalen Street, Norwich. 2, close-up of its unrelated fascias. 3, their effect on the length of the street. 4, typical view of Magdalen Street.

TOWNSCAPE

MAGDALEN STREET

Magdalen Street has been described as Norwich's 'Colourful native quarter' but—apart from the bustle of the crowds—its charms are of the deciduous kind that result from huddles of variegated buildings of varying ages, styles and degrees of commercial modification—precisely the sort of thing that can degenerate into squalor in very short order.

However, Magdalen Street has been lucky, in the sense that it's the object of a pilot research project sponsored by the Civic Trust, due for completion this month—a project in what could be called 'street-scape reclamation,' an attempt to do something about run-down buildings, badly aligned fascias, shop-fronts increasingly out of relationship with the façades above, ill-designed and worse-placed street furniture.

The first hurdle in such a project is one of practical democracy—getting any number of independent shop-keepers to co-operate. This was achieved chiefly through energetic public-relations work on the part of the trust. Next comes the problem of variety-in-unity, or whatever you like to call the integration of differently converted and designed buildings into a satisfactory urban scene. This was taken care of by allocating groups of shops to each of five members of a panel of local architects, under the co-ordination of Misha Black and Milner Gray (of Design Research Unit). The co-ordinators prepared a manual giving general guidance on lettering and colours, and they and the architects met frequently for discussion and mutual criticism.

Clearly this is a kind of work in which it is necessary to tread warily—excess of enthusiasm or originality could result in too much being swept away; old lettering, even though it conflicts with current tastes, and old paint-work, even though it be dirty, may both deserve to be treated with respect. Magdalen Street was not yet finished when this note was written. The results must be judged on their merits—they are bound to be hotly discussed—but the pioneer experiment undertaken there can be unreservedly welcomed, at the social level as well as the aesthetic.

P.R.B.

UNIVERSITY IN BLOOMSBURY

The existence of a university precinct in Bloomsbury was recognized as long ago as the Abercrombie-Forshaw plan for London of 1943, *but its architectural form has remained a subject of doubt and misgiving* until the recent publication of the development scheme drawn up by Sir Leslie Martin and Trevor Dannatt.

Until that time, the University of London's development of the area had been the object of some alarm. The piecemeal implementation of the University's own building programme, extending northwards from Sir Charles Holden's rigidly planned central area with its monumental Senate House tower, was advancing to-

wards the equally piecemeal extension of University College, eastwards and southwards from Wilkins's fine quadrangle. There was no co-ordination between these independent encroachments on the traditional townscape pattern of Bloomsbury, and the buildings were of a bulk and generally neo-Georgian style that promised increasing offence to the *genius loci* at a rate considerably greater than their merely increasing numbers. (See, particularly, AR, October, 1957, and December, 1958, Backyard Mentality.)

The Martin-Dannatt scheme, which is illustrated as the frontispiece of this issue, page 302, endeavours to restore a comprehensible scale, capable of co-existing with surviving buildings from the original Georgian development of the area, and at the same time to create some sense of precinctual unity and character. These considerations are obviously interconnected, and deal with size, nature and location of buildings, but there is another factor that can be dealt with first—traffic.

There can be no precinctual character in an area that is punched open by through traffic routes, as Bloomsbury is at present. The development scheme proposes to restrain through traffic to a single east-west route, and a single north-south route, the former on the line of Torrington Place, the latter by way of Malet Street and Gordon Square. Ideally, it would be preferred to eliminate through traffic altogether, and these proposals are in a sense, *faute de mieux*, pending rearrangement of traffic outside the precinct. Apart from these two through roads, all other roads entering the precinct are, in the Martin-Dannatt scheme, to become service-ways or access to car-parking, much of which will go below ground; and to prevent the two through roads carving up the precinct into four isolated zones, pedestrian circulation is to be bridged over them or tunnelled under them where necessary—the project envisages the creation of a first-floor 'podium' for the higher structures which should form a natural basis for high-level footbridges and walkways.

The problem of what sort of buildings, their location and size, is obviously a complex one. Decisions had to be made about what to keep from the eighteenth century—the terrace facing Tavistock Square has been suggested for 'certain preservation'; so has the terrace at the bottom end of Gower Street, which is visually part of Bedford Square. But against the desirability of preserving the best surviving terraces must be set the need for room to manœuvre in the disposition of new blocks, particularly since comprehensive planning offers considerable freedoms that should not be sacrificed. The most important of these is the ability to view the plot-ratios of the whole area synoptically, instead of site by site. The LCC have fixed the plot-ratio at 3.5, and while building proceeds in small pieces the tendency will be for every site to be built up independently to about this figure. But proceeding comprehensively it is possible to set areas that fall below this figure against others that may now exceed it if necessary.

Armed with this technique and some general guidance as to the University's probable floor-space requirements, Sir Leslie and Mr. Dannatt have been able to distribute building volume much more flexibly than is at present the case, to keep the scale down where the existing character of the scene requires it, and to make up the floor-space provided by building higher where circumstances permit or visual considerations justify it. Acceptance of the development plan will thus ensure the end of those giant, identically-bulking blocks that have caused so much alarm by their unsympathetic scale, but the plan makes no detailed architectural proposals, and the University's attitude to the style of the new work is not clear. It would be a tragedy if the scale problem having been solved the architectural realization were to remain in the neo-Georgian doldrum of the present situation, and thus vitiate the promise of the new approach.

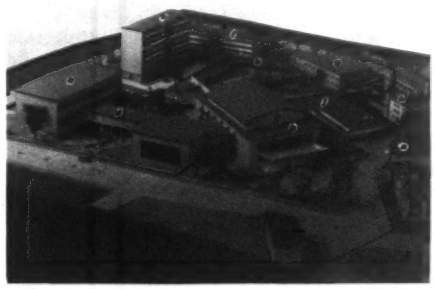
C. Forehoe

COUNTER-ATTACK

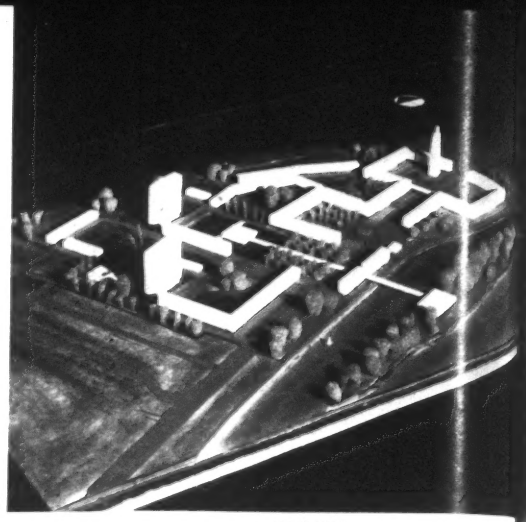
CIVIC CENTRES

A natural pessimist is always being pleasantly surprised. Every time this writer becomes really depressed about British architects and architecture something turns up, often in the most unexpected place, to make him think that the modern movement may be growing up after all (the current alternatives seem to be general paralysis or second childhood).

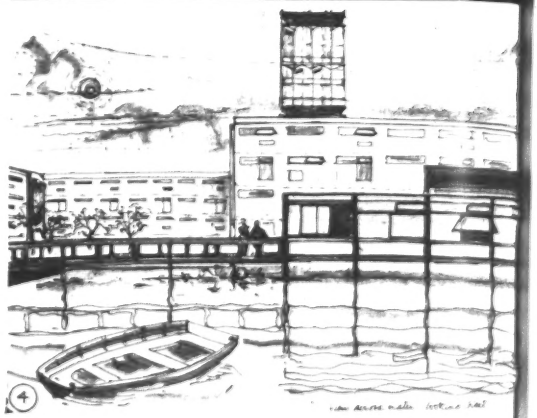
Two schemes for town centres have recently appeared: one for Poole, a civic centre in the strict sense, and one for Brentford, a new urban centre on what will largely be reclaimed industrial land. The Poole plan was prepared by the Borough Engineer, V. R. Barron, the Brentford plan by P. de Saulles, a private architect. Both have the same qualities of interlocking volumes and spaces and re-use of what is already there which are what the mathematician would call necessary conditions if redevelopment is to make sense in its complex surroundings: without them nothing.



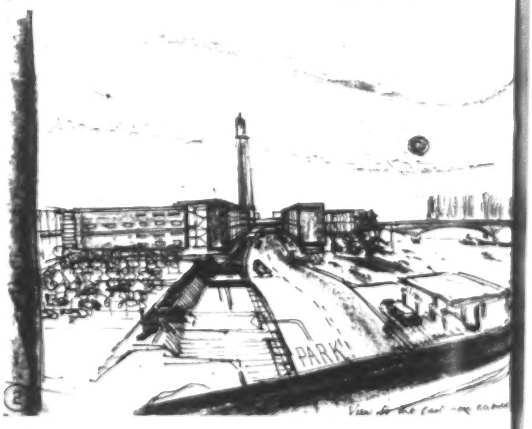
1, model of the Poole civic centre.



2



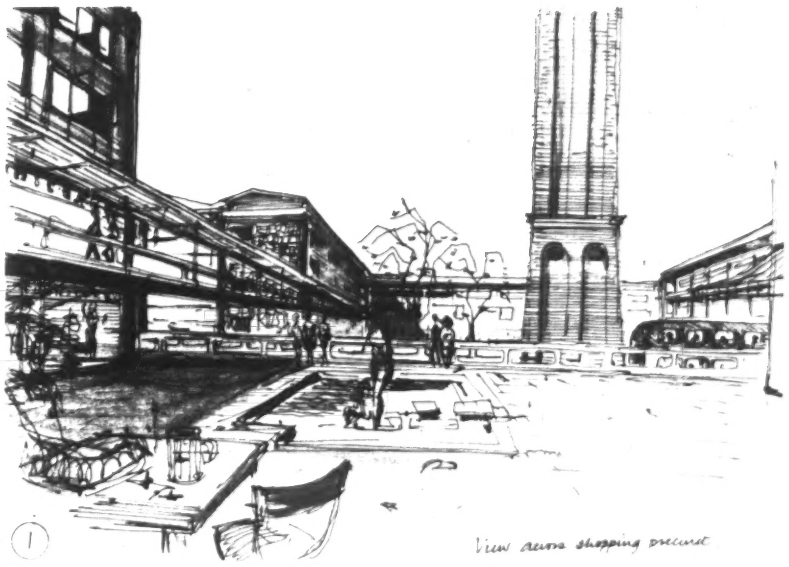
3 4



4

2, model of the scheme for Brentford, looking north-east. 3, view across the Thames, with the seventeen storey block of maisonettes in the background. 4, looking east from the pedestrian bridge over the main road towards Kew Bridge.

At Poole the site is a five-acre wedge behind the rather fearful 1930-Gothic municipal buildings, a. A previous condition was that the axis of the Town Hall, b, should 'run through the memorial clock tower on the Park Gates Roundabout.' We have heard that one before, but in fact the result, screened by a half-moon of trees, must surely be 1939's gentlest axis. Everything else fits in deftly and humanely: central library at the north-east end of the site, c, exhibition gallery, d, linking it with the town hall, eight-storey office block for the MOW behind, e, central clinic



7, the Brentford plan: view across the shopping precinct to the foot of the waterworks tower.

behind that, f, and law courts, g, next to the existing police station, h. In between are existing trees and two-storey car parks, j and k, which have a good chance of being attractive objects in their own right. Every pedestrian walk one can compute through and around the buildings looks as though it would be fun, and the fact that some of the elevations (which are only diagrammatic anyway) may look a bit gauche is much less important when the buildings themselves are dovetailed together.

The Brentford scheme is bigger and will probably have a much harder time of it for one reason and another. Old Brentford is a one-time country town High Street tottering into decay because the Council has rehoused everyone away from it. The present scheme, Council sponsored, adjoins it on the east and is intended as some kind of a replacement—the old street has gone too far to be saved—and a very good scheme it is too. The outstanding thing about it is that it is intended to be built very largely on land now occupied by the Metropolitan Water Board and the Gas Works. There will be no need for wholesale rehousing, though there will doubtless be wholesale writing of letters and passing of memoranda before such an un-English scheme of co-operation between authorities can come to pass; the Brentford and Chiswick Council have my heartfelt sympathy in this.

The architect has planned a truly urban sequence of squares making a brilliant re-use of the famous 'minaret' of the waterworks as a kind of campanile, approached under a pedestrian bridge which should give a most delightful 'stop it—I like it' effect; at ninety degrees to this axis another pedestrian link runs directly out to Brentford Ait, a narrow wooded islet in the Thames which has up to now remained quite unused. Both of these are axes which mean something and can be seen to mean something, not axes for their own sake. Existing reservoirs are re-used as pools, existing gas holder bottoms are made into oases in the bustle, car parks are to be gravelled and planted with trees like a French *place*. It is a dream: but it is practicable, it would seem truly Thames-side for the visitor and be a good place to live in for the Brentfordian.

In short, both Brentford and Poole are schemes that you could imagine yourself enjoying a walk in—and this is a lot more than can be said for most of today's redevelopment schemes.

Ian Nairn

BOOKS

ROMANTIC LANDSCAPE WITH CHIMNEYS

THE LANDSCAPE OF POWER. *By Sylvia Crowe. Architectural Press.* 16*s.*

There used to be people—perhaps there still are—who spoke of power stations as the cathedrals of the modern age. I'm not sure that Miss Crowe isn't sometimes guilty of muddying the difference in spiritual status between the two. Her challenge, certainly, is firm:

'If the emphasis on power proceeds beyond a point, perhaps not far distant, an unbalanced position will be reached in the life of this country where the excess of speed and mechanism, over repose and organic growth, will inevitably be reflected in an unbalanced landscape; a landscape devoted to industry at the expense of agriculture and to materialism at the expense of aesthetics, philosophy and contemplation. This country will then become an industrial estate. It may possibly be a well-ordered estate equipped with parks, but it will only represent a balanced life when seen against the background of the world as a whole. It will no longer be possible to lead a complete and satisfying life within Great Britain.'

But Miss Crowe has a weakness for *wanting* the landscape to 'reflect the nation's life.' For Miss Crowe this means that new machines should not be encased in traditional architecture, and that latticed masts suggest to her a 'scaffolding for new ideas.' But in a rather obvious sense *any* man-made landscape, any building, reflects the life of the nation which made it or built it or allows it to remain. That's just the trouble in fact. Housing estates, industrial estates, motorways and TV aerials are a perfect expression of the nation's welfare-state mind, just as the pre-war suburbs couldn't shout more clearly, 'Blow you, Jack, I'm going to leave my mess on someone else's doorstep.'

I think we've had enough expression for the moment, and we'd better leave it aside until we find something worth expressing. It might be a good idea for a change to be a step ahead instead of a step behind. Put a man into a suburban semi and only the toughest can avoid turning his front garden into a car-park decorated with Japanese cherries. Make a decent environment for people to live in, and what happens? Nothing, probably—the other forces are still too great. But at least we shan't be standing in the way of a decent way of living, and we might even make something decent to look at.

This is where Miss Crowe really comes in. Some time ago in the AR, Miss Crowe called on us all to stop sighing about the past and fight for our very lives now. Her part was to make herself into one of the most dogged challengers of contemporary commercial orthodoxy. And it is in this context that *The Landscape of Power* is so valuable. The book is full of the imaginative insight which makes Miss Crowe so good at tackling problems like the landscaping of Bradwell, full of keen observation and a fine understanding of the needs of different landscapes. But among all the helpful examination of detailed problems, the statement of two new standpoints seems to me of major importance.

First, the industrialization of a landscape is not limited to the area within the security fence. The effect of a large new industrial building may well be to create a zone of urban influence many times larger than the machine itself, and a zone of psychological influence larger still. Thus, if the Milford Haven scheme goes through, the whole of the area on both sides of the estuary from St. Ann's Head to Pembroke Dock will be lost; just as Fawley refinery has made the whole of Southampton Water into a suburban scene. Government departments and industrial combines must no longer be allowed to get away with the claim that they are occupying only so many acres. It's the square miles of influence which count (especially, of course, since expansion is so easy under the 'spoiled already' argument).

Second, the new machines are so big that the attempt to humanize them is basically wrong. They can only be accepted as a complete contrast with a humanized landscape, unsullied by any attempt to tamper with their scale by fancy human

dressings. Just as the occasional car doesn't destroy the intense stillness of real country, because it is so total a foreigner, so a TV mast or a cooling tower is tolerable only while it remains impersonal. We cannot make them into fine humanized objects like the great Derbyshire mills—they are now beyond our own scale. What *this* may mean in human terms it's alarming to think; but anyone who doubts the visual point might compare the 'artist's impression' of Dounreay that Miss Crowe prints with the photograph of the real thing which appeared in the AR in September, 1958.

The quietness with which Miss Crowe makes these two points may blind the casual reader to the momentousness of the change of outlook she proposes. Taken together they represent a huge challenge to the current orthodoxy of industrial siting, an entirely new approach to the problem of letting the landscape have its say, and finding out what it can take.

Speaking as a member of a youngish generation I slightly resent being informed that 'It may be that the younger generation can accept the superimposed grid of structure which represents cosmic forces harnessed to everyday life, just as they can accept a background of perpetual noise.' If it can, so much the worse for it and the country. The standard of living we have to keep up is much more than an economic one, and personally I'm not inclined to risk it.

Andor Gomme

BUILDINGS OF THE NORTH

SCANDINAVIAN ARCHITECTURE. *By Thomas Paulsson. Leonard Hill (Books) Ltd., London.* 42*s.*

This is the first complete history of Scandinavian architecture to have been published either in English or in any of the Scandinavian languages. The author, son of Gregor Paulsson and well known in Sweden as an architectural critic, writer and broadcaster, reveals this surprising fact in his preface. He adds that in 'the great classic work of Banister Fletcher the Nordic countries were not even included.' His book therefore deserves a special welcome in spite of the failure of his publishers to ensure that the translation was idiomatic. (On one page it is incomprehensible.) The photographs, generous in quantity, are sometimes inadequate too.

But can it be said that there is such a thing as a Scandinavian architecture? Though today the four countries are distinct realms, their historical, geographical, linguistic and cultural ties have been so tightly knotted together in the past that the answer, with some qualifications which the author makes clear, is yes. He is concerned to show how particular styles and types of buildings and towns were created by the social-economic conditions of each period. Advisedly he subtitles his work: 'Buildings *and Society* (my italics) in Denmark, Finland, Norway and Sweden from the Iron Age until Today.'

The influences (and indeed many of the architects) through the centuries came from the rest of Europe, in particular from England in mediaeval times and after the Reformation from Holland, but more space might have been given to the indigenous and delightful timber vernacular of the peasant cultures. The nationalistic phase of the early part of this century is dismissed rather curtly; the Stockholm City Hall, for instance, is given only a line or two and no picture. That masterpiece of a fairy-tale, climax of the handicraft movement, may be in disfavour today but within its own terms it is a landmark and a work of genius. However, the author is not greatly concerned with aesthetic judgments (nor with structural techniques). His approach is austere and the main interest of his book lies in his intelligent perceptions of how historical and social forces conditioned the buildings of the north.

Scandinavia is not plagued as we are with overcrowding, the effects of *laissez-faire* and with Subtopia, and Mr. Paulsson appears to be content with the present social conditions of the Scandinavian countries and with the architecture they produce. He reveals no personal hopes or visions for the future, but he does conclude with an important statement: 'The large city, as well as the small, exists to a great extent in the fluctuating play of a variety of forces and these are not only economic, or social, or technical. Other forces are those only partly calculable valuations that people make of their surroundings, their world. These valuations and forces are not yet fully comprehended.' Can they ever be? Or rather, can they ever be fully and rationally expressed in words? All we can do is to question the prevailing assumptions. But how many architects, town-planners, sociologists, economists or even writers like Paulsson, who take a broader view than most, are doing so today?

Incidentally, is it true to say that Art Nouveau was 'a style which within art was inspired by the painter Seurat'? A good case has been made out that the progenitor in painting was William Blake.

Eric de Maré

MILAN BUILDS

NUOVE ARCHITETTURE A MILANO. *By Roberto Aloi. Milan, Hoepli* 1958. 900 *lira.*

This book deals with buildings in Milan erected during the last six or seven years. It is a sequel to Piero Bottoni's Edifici Moderni in Milano, 1954, but while Bottoni's book is in pocket format and consists of itineraries, this new book is quarto and discusses building after building in order of types, with five to ten pages for every building including plans, technical details, etc.

One is impressed by the large volume of building going on at Milan, and the large number of architects participating. Of the best known people little is illustrated: nothing by Albini, two by B.B.P.R., two by Figini & Pollini, two by Gardella, two by Nizzoli. There is evidently a great deal of talent about at Milan and an even greater deal of ingenuity. The delight in novelty exceeds what even the most fanciful architects over here would venture to do. Of the Mies-Eiermann style, hardly anything appears. Architects play with chequer-board patterns of windows and even more random fenestration, and plans are not infrequently butchered to fit facades. Yet, what the book contains is extremely stimulating. The boldest three-dimensional experiments are once again Luigi Moretti's. Illustrations of the new Pirelli building by Gio Ponti and Nervi are included although the building is still incomplete. It promises to be of great beauty and it is obviously quite unmannered. Its prow shape gives it elegance and its qualities are already beginning to have an effect on other skyscrapers in Milan and outside.

N.P.

Shorter Notices

EARLY MUSLIM ARCHITECTURE. *By K. A. C. Creswell. Penguin,* 8*s.*6*d.*

The reputation of Professor Creswell (who will soon be eighty years old) in the field of Muslim architecture depends on a series of massive volumes that appeared in Oxford in the Thirties—academic publishing at its most lavish and opulent. The present Penguin volume is a drastic condensation of the first two of them, but it is far from being a 'cut version,' and includes information that was not available at the time the older volumes went to print—fragments of wood from the Nilometer at Quairawan are recorded as smelling of cedar, and having been sent to Kew for analysis, in the first version: the new edition records that Kew identified them as *Ficus Sycamoris*, and the earlier guess that the wood came from the Lebanon has been dropped.

There is something very Creswellian about this revision—he must be one of the most practical-minded historians that any school of architecture has been blessed with. He uses his imagination to get the available facts into comprehensible and creditable patterns, not to spin theories of origins or influences: the book is about buildings. The first paragraph concerns the dwellings of the primitive Arabians, the second plunges straight into the problem of the rebuilding of the Kaa'ba in the thirty-fifth year of the Prophet, and the rest of the book is strictly about bricks and mortar. For those with any interest at all in Muslim history down to about 270 H. it is required reading, obviously, but those with purely architectural interests will also find here the best introduction there is to the stones of Islam—rarely has the application of luminous commonsense to the facts of structure and the forms of planning done so much to reveal the mind of an architecture.

Michel Santiago

NEW WAYS OF BUILDING. *Edited by Eric de Maré. Third edition, Architectural Press Ltd.,* 45*s.*

This useful book comes to us in its third edition, thoroughly re-edited and much enlarged. All sections have had something substantial done to them, but that on steel has been completely re-written by a new and refreshingly lucid author, Dr. H. Gottfeldt. Among the other new additions in the text, mention must be made of Philip Reece's good account of recent TDA work on timber joints and W. B. McKay's masterly presentation of calculated brickwork. Brian Grant has virtually re-written the section on light metals, and K. Cheesman has much expanded that on glass. All these and the photographs (of which more are new than old) establish the work's unquestionable up-to-dateness.

L.W.

PITCHED ROOF COVERINGS

by Peter Whiteley

2, unit coverings—*continued*

Last month Peter Whiteley began his series of articles on pitched roof coverings by considering the physical properties of slates and tiles. This month we publish comparative cost tables relating to slates (both natural and manufactured), shingles and concrete tiles. Next month we will complete this section by publishing the cost tables relating to clay tiles and, when the series is finished, readers will have a complete cost comparison of virtually all the chief pitched roof coverings available in this country.

In the first of the cost columns, the cost is given ex-works, including trade discounts and transport cost within 100 miles of the supplier. The next column, B, gives the cost of the materials when laid, including battens, and when required, nails; including also an allowance for waste, for hips, verges, ridges and soakers, and for profit and overheads. The third column, C (which is the most interesting of all) gives the cost per square, on plan, of the total structure, including the ceiling. To make the comparison still more realistic, we include also sufficient insulation to bring the 'U' value of the roof down to a standard value of 0.18.

proprietary name and description	size	weight per square laid, in cwts.	recommended minimum pitch of roof (effective)	colour and finish	(a) cost material ex works per square	(b) cost laid per square (material only)	(c) cost per square on plan of total structure including ceiling and insulation	remarks
NATURAL SLATE (including stone)								
THE BROUGHTON MOOR GREEN SLATE QUARRIES LTD., Coniston, Lancashire								
					£ s. d.	£ s. d.	£ s. d.	
Broughton Moor Westmorland Green Slates	random widths (proportionate)		30	three named colours: (permanent) coarse grained texture				available also in silver-grey-green and mixed shades
olive green, bests	18 in. to 9 in. long	9½ cwt.			12 2 0	15 18 0	43 17 0	qualities: bests, seconds, thirds, special peggies, second peggies. fixing 2 nails/slate
	20 in. to 12 in. long				14 19 0	18 13 0	46 15 0	
seconds	18 in. to 12 in. long	11½ cwt.			11 16 0	15 14 0	43 13 0	'Bro-Moor' reconstructed slate ridging at 8s. 6d. per ft. run
light sea green, bests	18 in. to 9 in. long	9½ cwt.			14 14 0	18 10 0	46 14 0	
	20 in. to 12 in. long				17 12 0	21 10 0	49 17 6	
seconds	20 in. to 12 in. long	11½ cwt.			17 5 0	21 4 0	49 9 0	
THE BURLINGTON SLATE QUARRIES LTD., Kirkby-in-Furness, Lancashire								
Burlington blue-grey slates			30	blue-grey (permanent) medium to smooth texture				available in 7 numbered qualities
best pattern no. 1	any size, length and width	8 cwt.			11 16 0	15 12 0	43 11 0	fixing 2 nails/slate. mainly random length slates in each particular quality, unless specially ordered
best sized no. 2	any length up to 25 in. by proportionate widths	8 cwt.			10 8 0	14 7 0	42 16 0	
best mixed no. 4	lengths 14 in. to 22 in. by proportionate widths	8 - cwt.			9 1 0	13 11 0	41 10 0	
FREEMAN & SON, The Camp, Stroud, Gloucestershire								
Cotswold stone tiling	maximum length 24 in. random widths 6 in. to 24 in.	16 cwt. lap 4 in. at eaves to 1½ in. at ridge	45	Cotswold stone slabs		approx. £32	60 10 0	
J. W. GREAVES & SONS LTD., Portmadoc, Caernarvonshire. (**Mines at Blaenau-Ffestiniog**)								
'old vein' and 'deep vein' Portmadoc slates	24 in. by 14 in.	5 cwt.	26½ with 4 in. lap	blue-grey (permanent) medium rough texture	12 10 0	17 9 0	43 7 0	available in 4 classes
	16 in. by 10 in.	4¾ cwt.			9 14 0	14 15 0	40 13 0	best old and deep vein, mediums, strong deep vein and seconds, in full size range 26 in. by 16 in. to 10 in. by 6 in.
best old and deep vein, class 1	10 in. by 8 in.	5½ cwt.			5 17 0	11 10 0	37 8 0	
strong deep vein class 3	24 in. by 14 in.	5 cwt.			11 2 0	15 11 0	41 9 0	
	16 in. by 10 in.	5 cwt.			8 16 0	13 16 0	39 14 0	fixing 2 nails/slate
	10 in. by 8 in.	7 cwt.			5 12 0	11 9 0	37 7 0	

proprietary name and description	size	weight per square laid, in cwts.	recommended minimum pitch of roof (effective)	colour and finish	(a) cost material ex works per square	(b) cost laid per square (material only)	(c) cost per square on plan of total structure including ceiling and insulation	remarks
THE OAKELEY SLATE QUARRIES CO. LTD., 4, Old Mitre Court, Fleet Street, E.C.4. (Mines at Blaenau-Ffestiniog)								
					£ s. d.	£ s. d.	£ s. d.	
Ffestiniog slates best old vein mediums strongs extra strongs	24 in. by 14 in. down to 10 in. by 6 in.	5 cwt. (b.o. Veins) to 7 (extra strongs) in large sizes 5¾ cwt. to 8 cwt. in small sizes	25° with 4 in. lap	blue-grey (permanent), smooth in best old vein to coarse and rough extra strongs	£12 for 24 in., 22 in. and 20 in. (length) in b.o.v. down to £5 for 12 in. and 10 in. in extra strongs	18 16 0 13 12 0	46 15 0 41 11 0	available in full B.S. size range fixing 2 nails slate, centre nailing
(MANUFACTURED SLATE) RECONSTRUCTED STONE AND CONCRETE								
ROBERT ABRAHAM LTD., 43, Bankhall Street, Liverpool 20, and Hawes, Yorkshire								
'Hardrow' concrete slates	28 in. by 18 in. by 11/16 in. 18 in. by 18 in. by 5/16 in. 18 in. by 12 in. by 5/16 in.	18 cwt. 14½ cwt. 14½ cwt.	15° (4 in. lap) 20° (3 in. lap) 25° (3 in. lap)	obtainable in colours: yellow stone orange light grey dark grey brown thatch green surface texture rough and irregular colour approximately one-seventh of total thickness	5 0 0 4 2 6 4 2 6	11 3 0 9 5 0 9 11 0	39 2 0 37 4 0 37 10 0	slates have been laid for 30 years — and have shown no signs of deterioration or colour fading manufacturers strongly recommend hanging by 2 nails (at head of slate) (copper or galvanized) over the batten for all pitches up to 40°; which together with internal fillet pointing with hair lime mortar on vertical and horizontal joints only (and the proportions of the slates) enables very low pitches to be satisfactory
COTSWOLD DALE STONE CO. LTD., Magdalen Works, Tetbury, Gloucestershire								
reproduction Cotswold stone slates	lengths 20 in. to 6 in. in 2 in. decrements widths 7 in., 9 in., 11 in. and 13 in.	18 cwt.	45°	Cotswold stone aggregate, granular finish which weathers in similar way to natural stone in rural atmosphere	9 5 0	15 16 0	43 15 0	intended to be laid in diminishing courses and random widths single nailed slates, every third course to be fixed. Extra care needed in laying because brittle when 'green'
REDLAND TILES LTD., Castle Gate, Reigate, Surrey								
'Stonewold' interlocking slates (concrete)	17 in. by 15 in.	9½ cwt.	22½° (to 45° maximum)	obtainable in lichen green, moorland stone slate grey integrally coloured concrete permanency claimed	5 9 4	6 13 0	32 11 0	held by nibs — no nailing required fully interlocking side lap; partially interlocking head three angles of ridge and hip tiles to suit most pitches between 22½° and 45° vertical joints up the roof are broken as in stretcher bond
(MANUFACTURED SLATE) BITUMINOUS SLATE								
THE RUBEROID COMPANY LTD., Commonwealth House, 1-19, New Oxford Street, W.C.1								
ruberoid strip slates, square butt	strips of 4 in one piece 40 in. by 12 in. visible area of each slate when laid 9½ in. by 5 in. (4½ in. on exposed sites)	1¾ cwt. (approximately)	30°	mineral granule finish in Westmorland slate green, venetian red, Delabole slate grey, Bangor slate blue also in asbestos base felt in grey	grey, green, blue, £4 red £4 10s. 0d. grey (asbestos) £5 18s. 0d.	5 18 0 6 12 0 8 6 0	28 7 0 29 1 0 30 15 0	a minimum maintenance free life of 25 years can be expected of Ruberoid slates flexible and easy to lay; fixed by galvanized clout nails on ¾ in. (min.) tongued and grooved boarding
octagonal	strips of 4 in one piece 40 in. by 11 in. visible area when laid approximately 9½ in. by 4 in.	1½ cwt.	30°	colours: Westmorland slate green, venetian red, Delabole slate grey	grey, green £3 13s. 6d. red £4 3s. 0d.	5 13 0 6 2 0	28 2 0 28 11 0	

[continued on page 363

continued from page 362

proprietary name and description	size	weight per square laid, in cwts.	recommended minimum pitch of roof (effective)	colour and finish	(a) cost material ex works per square	(b) cost laid per square (material only)	(c) cost per square on plan of total structure including ceiling and insulation	remarks
(MANUFACTURED SLATE) ASBESTOS CEMENT SLATE								
THE UNIVERSAL ASBESTOS MANUFACTURING CO. LTD., Tolpits, Watford, Hertfordshire								
					£ s. d.	£ s. d.	£ s. d.	
Hendon purlin tiles	2 ft. 1 in. by 6 ft. 4 in. long (effective cover 6 ft.)			natural a.-c. grey, can be painted with a.-c. paint in appearance (form only) like a fully interlocking tile	11 0 0	13 5 0	37 7 6	should be laid from end to end of each course, lapping over on eaves undercourse and secured at each end of every tile through the valley corrugations which act as a built-in purlin; each tile will be exposed 10½ in. to the weather
pantiles	16 in. by 13½ in.		40°	natural a.-c. grey in form appearance like a traditional English pantile	7 7 6	10 3 0	34 5 6	no interlock; 4 in. head lap, 2 in. side lap double nailed (galvanized) at head of each tile. Closed end eaves tiles; and double roll available
TURNERS ASBESTOS CEMENT CO. LTD., Trafford Park, Manchester, 17								
'Poilite' a.-c. slates	'Duchess' 24 in. by 12 in., 4 in. lap recommended	approximately 4 cwt.	30°	stored surface finish in russet, blue-grey and natural a.-c. grey	7 10 0 approximately for russet and blue (in 2 ton load min.)	9 18 0	34 1 0	fixed on the straight cover system by 2 copper nails (at centre) and one copper disc rivet at tail of each slate; which gives good resistance to wind lifting
SHINGLES								
W. H. COLT LTD., Surbiton, Surrey								
edgegrain Canadian western red cedar shingles	16 in. long by 4 in. to 12 in. wide (random)	1½ cwt. (at 5 in. gauge)	30° normal with 6 in. lap and 5 in. gauge can be reduced to 20° with 8½ in. lap and 3¾ in. gauge	after a few months exposure weathers to a permanent silver-grey	7 4 0	11 10 0	32 8 0	sarking and boarding are unnecessary; shingles are twice nailed (at centre) to battens. Provide a very weather tight roof and have a good insulation value when laid, approximate 'u' value .3
CONCRETE TILES								
THE MARLEY TILE CO. LTD., London Road, Riverhead, Sevenoaks, Kent								
plain: 1 flat, 2 cross-cambered 3 Westwold	10½ in. by 6½ in.	14¼ cwt. (at 3 in. lap)	40°	fired granule finish in following colours: light, multi and dark reds, antique, marigold, brick red, dapple green, Cotswold and slate greys, blended dark red, full, dark, russet and golden greens	4 11 0	8 6 6	36 5 6	fixing 2 nails per tile every fifth course. manufactured to B.S.S. 473/1956. all types of tile guaranteed against lamination and decay for 50 years
'Ludlow' interlocking (sides only)	15 in. by 9 in.	8 cwt. (at 3 in. lap)	30°	as above except for multi-red	3 8 0	5 17 0	31 15 0	fixing 1 nail per tile every course. manufactured to B.S.S. 555/1956
'Yeoman' interlocking double Roman	16¼ in. by 13 in.	9 cwt. (at 3 in. lap)	30°	as above	3 8 0	6 5 0	32 3 0	as above
'Anglia' pantiles	15 in. by 9 in.	8 cwt. (at 3 in. lap)	30°	as above	3 13 0	6 12 0	32 10 0	as above

proprietary name and description	size	weight per square laid, in cwts.	recommended minimum pitch of roof (effective)	colour and finish	(a) cost material ex works per square	(b) cost laid per square (material only)	(c) cost per square on plan of total structure including ceiling and insulation	remarks
THE PRENTON BRICK & TILE CO. LTD., Prenton Dell Road, Birkenhead								
Broseley plain tiles	10½ in. by 6½ in.	12 cwt.	35°	integral colour smooth finish; colours: antique gold, gold, red, grey	3 13 9	7 9 0	35 8 0	
single interlocking	15 in. by 9 in.	9 cwt.	30°	as above	2 14 6	4 18 0	32 17 0	
REDLAND TILES LTD., Castle Gate, Reigate, Surrey								
Redland '49' interlocking (single lap)	15 in. by 9 in.	8 cwt.	30° (with 4 in. lap)	Fired granule finish in colours: green, brown, antique, red, straw, slate grey, silver grey, special Cotswold	2 9 0	3 19 0	31 10 0	fixing, each tile in every alternate course to be nailed (one). all types of tile are guaranteed for 50 years against lamination and decay
Redland '50' Roman interlocking (single lap)	16½ in. by 13 in.	8 cwt.	35°	as above	2 10 6	4 1 0	31 11 6	fixing, each tile twice nailed every third course. Perspex rooflight '50' available to lay with and match '50' Roman tiles
Redland '51' interlocking (single lap)	15 in. by 9 in.	8 cwt.	33½°	as above	2 9 0	3 19 0	31 10 0	fixing, as above
Redland '52'	16½ in. by 11 in.	8½ cwt.	30°	as above	2 19 6	4 11 0	32 10 6	manufactured to B.S.S. 550/1956. fixing, each tile in every alternate tile once nailed
ESSEX TILE & CONCRETE CO. LTD., Selinds Lane, Whalebone Lane South, Dagenham, Essex								
plain tile (cross cambered)	10½ in. by 6½ in.		40°	Essex '54' finish smooth, integral colours: tile red, marigold, black, brown, buff	4 10 0	8 5 0	36 4 0	also available in sand-faced finish only, at slightly less cost; also sand-faced Essex finish in three colours of greens at 12% to 25% more cost. Guaranteed for 50 years against lamination and decay, and against colour fading (except greens)
				sandfaced on Essex '54' finish base, same colours	5 3 0	8 19 0	36 18 0	
double interlocking (sides only)	15 in. by 9 in.		35°	Essex '54' finish	2 15 0	4 17 0	32 16 0	as above.
				sandfaced on Essex '54' finish	3 1 0	5 15 0	33 14 0	
English pantiles	15 in. by 9 in.		35°	Essex '54' finish only, in the above colours	3 15 0	6 18 0	34 7 0	
LEIGHTON BUZZARD TILES LTD., 158-160, City Road, London, E.C.1								
Bedfordshire plain	10½ in. by 6½ in.	13½ cwt. (with 3 in. lap)	40°	fired granule finish in colours: red, dark red, dark brown, dun, rustic, Cotswold stone, Cotswold 'B' and 'C,' grey-green and marigold	3 11 0	7 6 0	35 0 0	fixing 2 nails per tile every fifth course, on steeper pitches than 40° nailed every third course. manufactured to B.S.S. 473/1056. all types guaranteed for 50 years against lamination and decay
'Leighton' interlocking (sides only)	15 in. by 9 in.	7½ cwt. (with 3 in. lap)	33°	as above	2 5 0	4 2 0	32 1 0	manufactured to B.S.S. 550/1956. fixing, 1 nail per tile each alternate course
'Grovebury' interlocking double pantile	16½ in. by 13 in.	7½ cwt. (with 3 in. lap)	30°	as above	2 14 6	4 16 0	32 15 0	manufactured to B.S.S. 550/1956. fixing, 2 nails per tile every second or third course according to conditions

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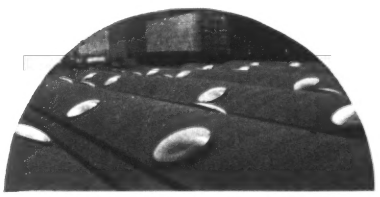
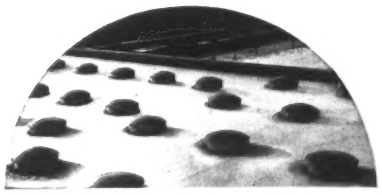
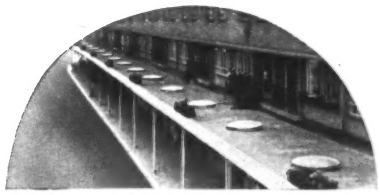


GENERATING STATION
C. E. G. B. Northfleet

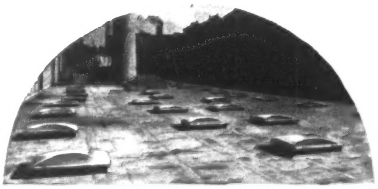


TRAINING CENTRE
British Railways, Crewe

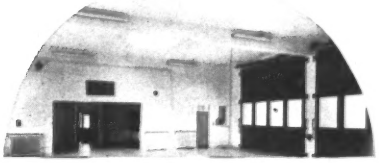


COLONNADE
Hemel Hempstead New Town

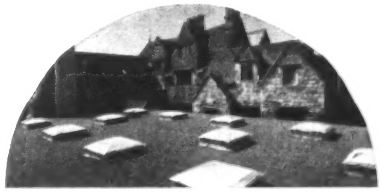
NATURAL OVERHEAD



TRANSPORT DEPOT
Wigan Corporation



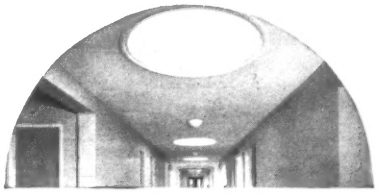
FIRE STATION
Wythenshawe, Manchester



HOTEL
Lygon Arms, Broadway, Worcs.

LIGHTING...

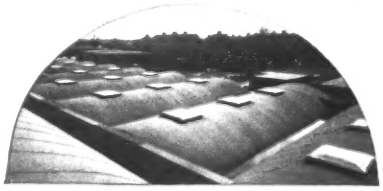
FACTORY
Twist Drill Co., Ltd., Sheffield



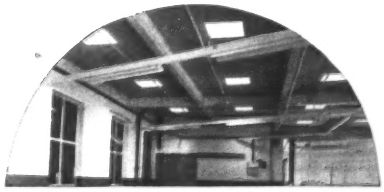
SCHOOL
Houghton Sec. Modern, Darlington

CREMATORIUM
Huddersfield Corporation

WHEREVER THERE'S A NEED



ENGINEERS' STORES
Y.E.B., Grimsby



WOOLLEN MILL
Paton & Baldwins Ltd., Alloa

OIL REFINERY
Shell-Mex Ltd, Shell Haven

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GLASS BENDERS FOR OVER A CENTURY

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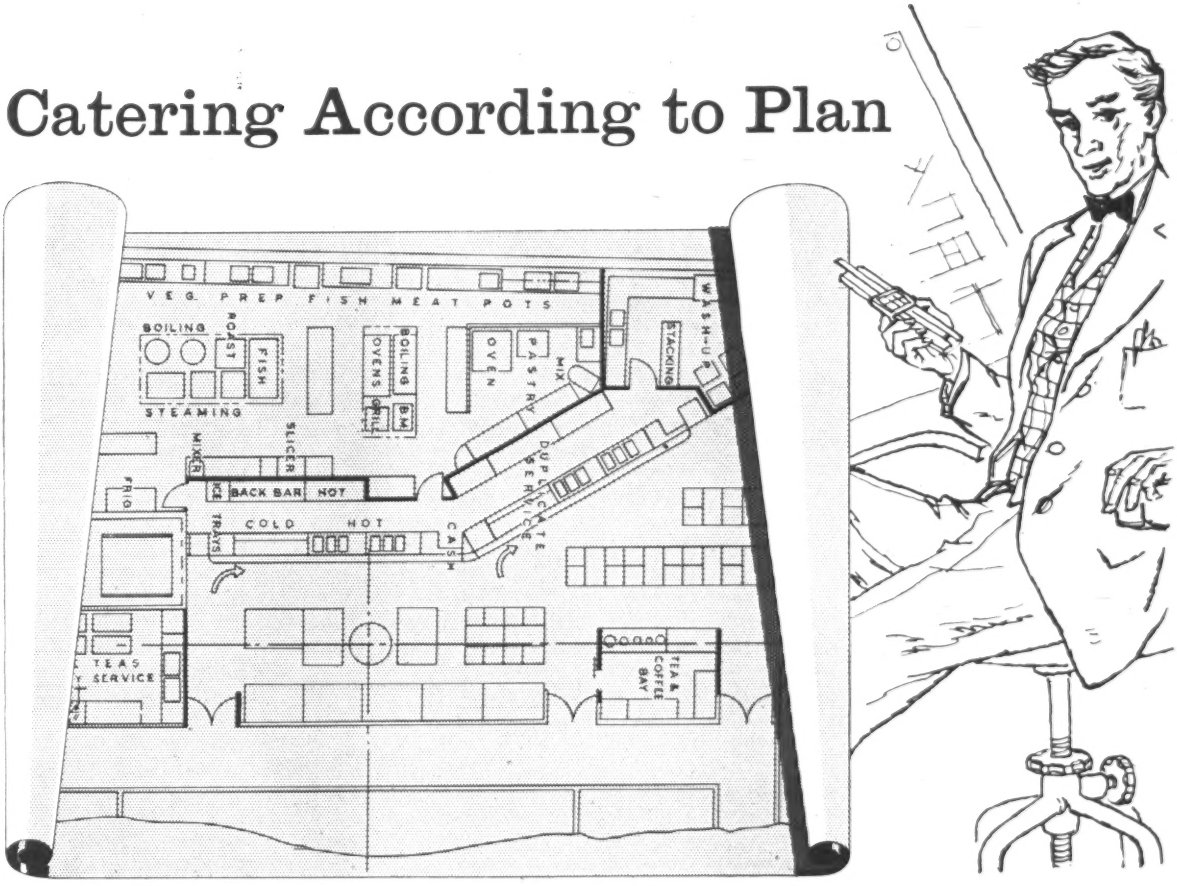
proprietary name and description	size	weight per square laid, in cwts.	recommended minimum pitch of roof (effective)	colour and finish	(a) cost material ex works per square	(b) cost laid per square (material only)	(c) cost per square on plan of total structure including ceiling and insulation	remarks
CRENDON CONCRETE CO. LTD., Thame Road, Long Crendon, Aylesbury, Bucks.								
					£ s. d.	£ s. d.	£ s. d.	
plain Broseley (cross cambered)	10½ in. by 6½ in.	15 cwt. approximately (with 3½ in. lap)	35	Fired granule finish in colours: red, autumn, plum, nigger, Cotswold grey, Cotswold yellow, green	4 7 0	8 2 0	36 1 0	manufactured to B.S.S. 473/1956 Guaranteed for 50 years against lamination and decay
pantiles	15 in. by 9 in.	8 cwt.	30	as above	3 8 0	6 10 0	32 8 0	manufactured to B.S.S. 550/1956
ANCHOR BUILDING PRODUCTS LTD., Broomhills Road, Leighton Buzzard, Bedfordshire								
'Ancona' single Roman (hand made)	17 in. by 11¾ in.	10½ cwt.	30	fired granule finish to concrete in light and dark red, dark brown, Cotswold grey	4 0 0	7 4 0	35 3 0	guaranteed for 50 years against lamination and decay
'Rotunda' double Roman (hand made)	17¼ in. by 14 in.	11 cwt.	30		2 15 0	4 13 0	32 11 0	as above

Catering According to Plan



And whatever the plan may be, we can design, construct and install the equipment to your specification.

Over 80 years of experience in the manufacture of catering and kitchen equipment is at the service of the architect plus the widest range of adaptable units for every catering requirement—from self-service counters to dishwashing equipment, from canteen boilers to automatic self-service tea and coffee machines.

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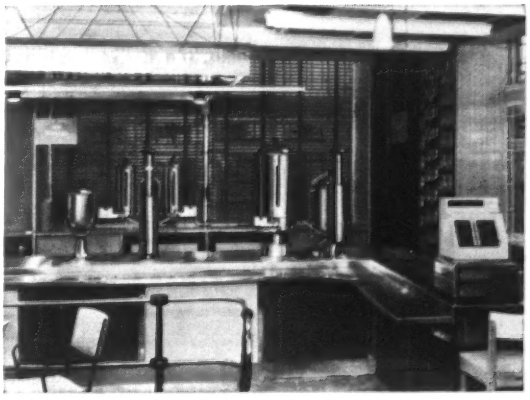

We shall be pleased to send you our fully illustrated literature on request

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THE INDUSTRY

Thick Hardboard

Before the war one could get ¼ in. thick Scandinavian hardboard, but they have not been generally available since. Now the Bowater organization is to produce this thickness in both standard and tempered grades. The advantages of such a board is, of course, that fixings can be at wider spacings; indeed it can be used without support at all for some purposes. For example, sliding cupboard doors of normal height, where a shaped batten down one edge can serve as both stiffener and door pull. The makers suggest studding at 24-in. centres when used as cladding and they also make the board in 2 ft. and 2 ft. 6 in. widths for ease of hoisting through roof traps to make attic flooring. Other sizes are: 8 ft. by 5 ft., 6 ft. by 4 ft. and 9 ft. by 4 ft. Price: per ft. sup. 8½d. for the standard and 11d. for the tempered grades (approximately).
Bowaters Ltd., Knightsbridge.

Another School System

With the false dawn of 1940's style prefabrication over we are now well into the morning of the technically sound 'kit of parts' concept of architecture—for schools. Herts began (with Hills), the MOE continued (with Hills, Brockhouse and Intergrid), and now the industry is beginning to work under its own steam (fired by official ideas). John Laing and Son have produced a brochure for their system 'Laingspan' — a prestressed system of small columns and deep open web beams, similar to other proprietary systems and developed in association with the MOE with A. J. Harris as engineer.' Columns are all 6 in. by 6 in., beams 20 in. deep and up to 33 ft. 4 in. span. The system will go up to four storeys and is, of course, based on the 40-in. module.

The brochure gives fairly full technical information, although some of the drawings need to be puzzled over. Diagrams suggesting ways in which the system can deal with school planning problems, staircase positions and so on would have been useful, likewise some indication of cost.
John Laing and Son Ltd., London, N.W.7.

CONTRACTORS etc

Kingsdale School, Dulwich. Designed by the Chief Architect's Department of the LCC. *General contractors:* Lavender McMillan (Contractors) Ltd. *Sub-contractors: Roofing and asphalt:* Pilkingtons Asphalte Ltd. *Concrete blocks (cellular):* Broad & Co. *Artificial stone:* Qualcrete Ltd. *Structural steel and glazed cladding:* Hills (West Bromwich) Ltd. *Glazed cladding (ground floor, teaching block):* Williams & Williams Ltd. *Plywood infills, panels:* Venesta Ltd. *Wood wool slabs:* Thermacoust Ltd. *Tiles:* Carter & Co. (London) Ltd. *Plaster partitions:* Unit Construction Co. *Glass:* Pilkington Bros. Ltd. *Woodblock flooring:* Vigers Bros. Ltd. *Central heating and ventilating:* Ellis (Kensington) Ltd. *Boilers:* Ideal Boilers & Radiators Ltd. *Electric wiring:* Holliday Hall Son & Stinson Ltd. *Light fittings:* Hume Atkins & Co.; Merchant Adventurers Ltd.; Frederick Thomas & Son; Troughton & Young (Lighting) Ltd. *Plumbing:* Building Engineering Constructors Ltd. *Sanitary fittings:* T. A. Harris Ltd. *Stairtreads:* Modular Concrete Co. *Door furniture:* H. & C. Davis Ltd. *Metal windows:* Hills (West Bromwich); Williams & Williams. *Bells:* Holliday & Son (Electrical) Ltd. *Solid doors:* Manor Joinery Works Ltd. *Joinery:* Humphreys Ltd. *Folding doors:* Esavian Ltd. *Sunblinds:* S. C. Williams & Co. *Stage curtains:* Gerald Holtom. *Plastering:* Alan Milne Ltd. *Plaster ceiling panels:* Claridge's (Putney) Ltd. *Metalwork:* East Sussex Engineering Co. *Locker units:* Custom Built Ltd. *Cork floors:* Marley Tile Co. *Wallpapers:* Arthur Sanderson & Sons Ltd.; Kerridge (Cambridge) Ltd. *Cloakroom fittings:* Childs Constantine Co. *Clocks:* Gent & Co. *Lettering:* Drakard & Humble Ltd.

Garratt Green School, Wandsworth. Designed by the Architect's Department of the LCC. *General contractors:* Messrs. Tersons Ltd. *Sub-contractors: Pile foundations:* Soil Mechanics Ltd. *Plastic letters and numerals:* Drakard & Humble Ltd. *Exposed aggregate shuttering:* Tercrete Ltd. *Laminated timber beams:* Rainham Timber Engineering Co. *Cork tile flooring:* H. E. Richards (Flooring) Ltd. *Wood block and strip flooring:* Vigers Bros. Ltd. *Suspended ceilings:* Sundeala Board Co. *Goods hoist:* James Ritchie & Sons Ltd. *Heating, gas, water and ventilation services:* Norris Warming Co. *Electrical installation:* Thorpe & Thorpe Ltd. *Ironmongery:* Childs Constantine & Co. *Swimming bath filtration and chlorination plant:* Bell Bros. (Manchester 1927) Ltd. *Stone paving:* Liverpool Artificial Stone Co. *Granolithic paving, precast concrete fountain head:* Kendells Flooring Ltd. *Hardwood handrail, treads and risers and sliding folding screens to assembly hall:* Samuel Elliott & Sons Ltd. *Structural steelwork and balustrade and gates:* R. Smith (Horley) Ltd. *Terrazzo work:* Mosaic & Terrazzo Precast (Staines) Ltd. *Aerial mast:* St. Peters Metal Works Ltd. *Dais and display case in assembly hall:* Cookes (Finsbury) Ltd. *Frostproof tiling:* A. H. Herbert & Co. *Diving boards:* Gilliam & Co. *Patent glazing and roof lights:* Faulkner Greene & Co. *Sanitary fittings:* Adamsez Ltd. *Timber windows and doors:* Rippers Ltd. *Metal opening sashes:* Crittalls Manufacturing Co. *Exposed aggregate slabbing:* Stent Precast Concrete Ltd. *Bricks:* Sussex & Dorking Brick Co. *Structural steel:* Rom River Co. *Glass:* Aygee Ltd. *Waterproofing materials:* Tretol Ltd. *Boilers:* Ideal Boilers & Radiators Ltd. *Light fittings:* Hume Atkins & Co.; Frederick Thomas & Co.; General Electric Co. *Casements:* A. Beanes & Co. *Plastering:* Whetstone Ltd. *Tiling:* Payne & Baker Ltd. *Wallpapers:* Wallpaper Manufacturers Ltd.; John Line & Sons Ltd. *Clocks:* Gent & Co. *Sliding door gear:* P. C. Henderson Ltd.

Motor Showrooms at Poole. *Architects:* Farmer and Dark. *General contractors:* John H. Wilson Ltd. *Sub-contractors: Tiled wall panel:* Carter & Co. *Electrical installations:* Aish & Co. *Thermoplastic tile flooring:* Southern Tiling Ltd. *Metal decking:* Robertson Thain Ltd. *Wood block flooring:* Sherry & Haycock Ltd. *Structural steelwork:* Metal Construc-

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tions Ltd. *Aluminium fascia:* Willis Ltd. *Steel sliding folding doors:* Bolton Gate Co. *Aluminium sliding folding doors:* Ford, Vincent & Co. *Lettering:* Ward & Co. *Terrazzo:* A. Cristofoli & Sons. *Patent glazing:* Standard Glazing Co. *Heating:* James Combe & Son Ltd. *Metal doors and windows:* John Thompson Beacon Windows Ltd. *Stores construction:* Dexion Ltd. *Clothes locker baskets:* James Seiber Equipment Ltd. *Paints:* Farrow & Ball Ltd.; Vitretex Ltd.; Tretol Ltd. *Lighting equipment:* Ekco-Ensign Electric Ltd. *Clocks:* Baume & Co. *Bricks:* Chas. Mitchell & Sons Ltd. *Acoustic ceilings:* Celotex Ltd. *Roofing felt:* Ragusa Asphalte Co. *Roofing slabs:* Marley Tile Co. *Landscaping:* Henry & Henry.

Royal Observatory at Herstmonceux. *Architect:* Brian O'Rorke. *Equatorial group: General contractors:* Charles R. Price. *Ironmongery:* Dryad Metal Works Ltd. *Metal door frames:* J. H. Sankey & Son Ltd. *Sanitary fittings:* Adamsez Ltd. *Flush doors:* John Sadd & Sons Ltd. *Access panels:* Saro Laminated Wood Products Ltd. *Pool circulating pump:* Sigmund Pumps Ltd. *Blinds:* J. Avery & Co. *Structural steelwork to laboratories:* Moreland Hayne & Co. *Dome construction and rising floor:* Knight Construction Ltd. *Metal windows:* Henry Hope & Sons Ltd. *Plumbing:* Stitson, White & Co. *Lightning conductors:* J. W. Gray & Son Ltd. *Copper roof dome covering:* Holloway Metal Roofs Ltd. *Stone pavings and linings:* South Western Stone Co. *Tiling and partitions:* Zanelli (London) Ltd. *Balustrades and entrance gates:* H. H. Martyn & Co. *Concrete roof beams:* Kingsbury Concrete Co. *Metal windows:* Doodson & Bain Ltd. *Wood block flooring:* Stevens and Adams Ltd. *Bronze rainwater ducts and shutter edging:* The Morris Singer Co. *External rendering:* Modern Surfaces Ltd. *Ventilators:* Colt Ventilation Ltd.

Teachers' Training College at Coventry. *Architects:* W. S. Hattrell & Partners. *General contractors:* W. H. Jones & Son Ltd. *Sub-contractors: Pre-stressed floors and roofs:* R. Costain & Sons (Liverpool) Ltd. *Reinforced concrete beams:* The British Reinforced Concrete Co. *Pre-formed plumbing:* J. S. Wright & Co. *Staircase balustrading:* Scaffolding (Great Britain) Ltd. *Flooring (cork):* Cork Insulation & Asbestos Co. *Wood blocks and plastic tiles:* Hollis Bros. Ltd. *Metal windows:* Stelwin Construction Ltd. *Flush doors:* Gliksten Doors Ltd. *Tiling:* Bryon & Co. *Perspex dome lights:* William J. Cox Ltd. *Electric installation:* The Thompson Electrical Co. *Heating installation:* Ashwell & Nesbitt Ltd. *Ironmongery:* James Gibbons Ltd. *Felt roofing:* Standard Flat Roofing Co. *Classroom block only: Superstructure (steel frame, partitions, curtain walling, etc.):* Hills (West Bromwich) Ltd. *Steel door frames:* Henry Hope & Sons Ltd. *W.C. cubicles:* Venesta Ltd. *Laboratory fittings:* E. O. Shanks & Son Ltd. *Blinds:* J. Avery & Co. *Music and drama block: Steelwork:* Boulton & Paul Ltd. *Gymnasium/swimming bath: Steelwork:* Boulton & Paul Ltd. *Reinforced concrete:* Holst & Co. *Cedar shingles:* W. H. Colt (London) Ltd. *Metal windows and control gear:* James Gibbons Ltd. *W.C. and shower cubicles:* Flexo Plywood Industries Ltd. *Aluminium gutters:* A.P. Metalcraft, Coventry. *Sanitary fittings:* A. D. Foulkes Ltd. *Mirrors:* Glass (Coventry) Ltd. *Gymnasium equipment:* Niels Larsen & Son Ltd. *Heating installation and hot water system and mechanical plant to pool:* H. Clark & Son.

Offices at Kendal. *Architects:* Ramsey Murray, White and Ward. *General contractors:* John Laing & Son Ltd. *Subcontractors: Concrete beams:* Horncop Concrete Works. *Flush doors:* John Herring & Co. *Acousti-celotex tiling:* Wm. Beardmore & Co. *Lightning conductor:* J. W. Gray & Sons Ltd. *Laylight window and controls:* S. Warner & Son Ltd. *Staircase handrails:* Dixon Powner & Sons. *Lift:* Bennie Lifts Ltd. *Mirrors:* Reed Millican & Co. *Strong room doors:* Chubb & Sons Lock & Safe Co. *Domelights:* T. & W. Ide Ltd. *Flagstaff:* Piggott Bros. & Co. *Painter:* Reid Bros. *Tarmacadam:* J. Chaplow & Sons Ltd. *Concrete piling:* The Cementation Co. *Reinforcement:* The Square Grip Reinforcement Co. *Bricks:* Uxbridge Flint Brick Co. *Portland stone:* Jas. H. Harrison Ltd. *Asbestos fireproofing:* Turners Asbestos Cement Co. *Tiles:* Hulme & Petts Ltd. *Slate window surrounds and wall cladding:* Lakeland Green Slate & Stone Co. *Vermiculite roof screeds:* William Kenyon & Sons Ltd. *Roofing felt:* Blackwells & National Roofings Ltd. *Partitions:* Compactom Ltd. *Armour plate glass doors:* Pilkington Bros. Ltd. *General glazing:* Reid Bros. *Woodblock flooring:* The Acme Flooring & Paving (1904) Co. *Terrazzo:* Commercial Marble & Tiles Ltd. *Mastic floors:* J. A. Hewetson & Co. *Waterproofing materials:* Sealers (London) Ltd. *Electric wiring:* Tyler & Freeman Ltd. *Light fittings:* Troughton & Young (Lighting) Ltd. *Central heating, ventilation, air conditioning:* Benham & Sons Ltd. *Plumbing:* Henry Tattersall Ltd. *Sanitary fittings:* Shanks & Co.; Adamsez Ltd. *Marble stairtreads:* Art Pavements & Decorations Ltd. *Door furniture:* N. F. Ramsay & Co. *Casements:* The Crittall Manufacturing Co. *Window controls:* Arens Control Ltd. *Bells:* Gent & Co. *Hosereel equipment, fireproof doors:* Mather & Platt Ltd. *Iron staircases:* The Safety Tread Ltd. *Sunblinds:* Scottish Aluminium Ware Ltd. *Plaster:* Pollock Bros. Ltd. *Metalwork:* Wainwright & Waring Ltd.; P. Bland Ltd. *Marble:* Conways (Tiles & Terrazzo) Ltd. *Textiles and carpets:* Musgroves (Kendal) Ltd. *Wallpapers:* Primavera. *Furniture:* Woollard Bros. Ltd. *Planting:* Mawson & Partners Ltd. *Lifts:* Otis Elevator Co.; Bennie Lifts Ltd. *Clocks:* The Synchronome Co. *Signs:* The Lettering Centre.